

Dr. Ellen Junn
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PEER EDITING GUIDE FOR RESEARCH PROJECT

Learning to write well is a skill that only improves with continuous practice, feedback, and effort. Your ability to think and write in a well-organized, logical, and coherent way is a critical skill. Although you may have a sense of the general quality of your own paper, having another outside, more objective person evaluate your work is often a better way of testing the ultimate clarity and coherence of your paper and your ideas. Usually, this role is fulfilled by the instructor, however, having another student or peer evaluate your paper before turning it in represents a low-cost, optimal way of discovering whether or not your paper is understandable, clear, and well-organized.

This peer editing exercise is an optional extra credit assignment that is designed to help you as you formulate, write, improve, and refine your paper before I receive it. It is a simple, step-by-step, straightforward exercise. In order to receive the full 10 extra credit points for doing this exercise, you must do all of the following below:

- (1) You must read over the entire handout and use it to edit your own paper before selecting a peer editor.
- (2) You are required to find another student in the class (who is not in your collaborative research group) who will serve as your peer editor. This person must agree to read, review, edit, and comment on your paper by using the format and questions that follow below. The student who serves as a peer editor will receive a maximum of 5 extra credit points for serving in this capacity. In addition, you may have multiple peer editors, but you will receive a maximum of 10 extra credit points for turning in this assignment.
- (3) You must submit the original draft of your paper that your peer editor read, complete with all of that student reviewer's comments and markings.
- (4) You must submit the attached peer editing checklist, completed and signed by your student editor after they have reviewed your paper.
- (5) You should implement any appropriate and reasonable changes and/or corrections suggested by your peer editor wherever pertinent.

Instructions to the Peer Editor:

Editing a paper is more than simply looking for typographical errors and obvious grammatical mistakes. You must attend to and comment candidly, but constructively about other more important issues, such as clarity, organization, understandability, style, etc.. Use the questions below to guide you. The first step is to read over the entire paper, and make marks, comments, and questions, on the paper as you read it over. Do feel free to note typographical or grammatical errors, but try to pay more attention to the clarity and completeness of the ideas. For example, if a sentence, paragraph, or idea is not clear to you, circle it and say so (in a nice and constructive way though!). Give praise and positive feedback wherever appropriate too! Second, go step-by-step through the checklist below and fill it out using the following scale:

- 3 = good job!
- 2 = needs some work or changes
- 1 = not adequate or missing

Introduction:

- 3 Intro began with a clear, general paragraph describing the topic of interest.
- 2 Subsequent paragraphs developed the background for the study in a clear and logical way. ~~Complicated sentences~~
- 2 Previous research findings were clearly reviewed.
- 2 Studies were reviewed in chronological/topical order.
- 3 The relevance of previous research findings to the paper topic was clear (i.e., instead of a disjointed listing of findings, the literature review clearly explained how or why the previous literature related to the paper topic).
- 3 Key terms were defined (e.g., self-esteem, aggression).
- 3 Author and year citations (for example, Brown, 1991) were used to give credit to other authors' ideas or studies.
- 3 Relevant theories and their importance were discussed.
- 3 Closing paragraphs included a discussion of the specific purpose and rationale for the mini-study, linked to previous research.
- 3 Significance/importance of the project was described.
- 3 Specific hypotheses or predictions for the mini-study were described clearly.
- 2 Overall, after reading this section, the following things were clear and understandable:
 - 3 the purpose of the study was clear.
 - 2 the previous literature on the topic was clear
 - 3 the significance of the study was clear
 - 3 the study's hypotheses were clear and reasonable

COMMENTS:

- need more previous research, what other people studied about this topic besides what the authors of what you based your study on

not research
not ~~only~~ theory

Method:

- 3 Subjects were described under the appropriately labeled subsection in sufficient and clear detail (included number, sex, ethnicity, family demographics, source of subjects).
- 3 Materials (e.g., surveys or questionnaires) and/or stimuli were described under the appropriate subsection in a brief but clear and detailed way.
- 3 Procedures used in the mini-study were summarized under the appropriately labeled subsection in a brief, detailed, step-by-step way beginning with a reference to the informed consent and ending with the debriefing procedure.
- 3 Any instructions given to children were described.
- 3 Overall, the Method in this mini-study described clearly WHAT was done and HOW it was done.

COMMENTS:

good job!

Results:

- 3 If categories were constructed, the procedures or criteria used to categorize the data were described clearly.
- 3 A brief and clear summary of the results was presented for each of the hypotheses found in the introduction.
- 1 For each main finding, quantitative data (percentages or frequencies) were presented to support each conclusion.
- 3 Neat, easily intelligible tables or figures were used to summarize the data and referred to in the appendix.
- 2 Tables/figures were numbered and titled appropriately.
- 3 Results were described in relational terms (more than or less than) and developmental trends were discussed.
- 2 Overall, the results section presented the data in a clear, understandable way that related back to the original purpose and hypotheses of the mini-study.

COMMENTS:

Complicated reading, had to reread to sort out sentences

Discussion:

- 2 Discussion opened with a brief summary of the results.
- 3 The discussion included an opening statement of support or nonsupport for the mini-study's hypotheses or purpose.
- 2 The similarities and differences between the mini-study's results and previous findings were discussed.
- 3 The discussion included possible explanations or reasons for why similarities and differences existed.
- 2 Theoretical and practical implications of the mini-study were discussed.
- 2 The flaws or possible shortcomings (and ways of correcting these problems) of the mini-study and previous research were discussed.
- 2 Suggestions for future studies and research were presented, if appropriate.
- 2 Overall, the authors demonstrated a good understanding of their study's results, as well as the previous research, of research in a clear and understandable way.

COMMENTS:

mostly result stats - not much comparative writing

-Dr. Junn said this is an ^{very} important part

in discussion

should put above chart

not brief

short-1 sentence

short

only refered to one study

References:

2 All articles or books cited in the paper were listed in the separate reference section, with no additional references added or missing.

3 References were listed in the proper format.

3 There were at least 10 scholarly journal references.

COMMENTS:

I couldn't find the ones that aren't checked in your paper

Appendix:

3 All tables or figures were included here, in order.

3 The authors' original data sheets were included here.

3 Any materials (questionnaires or surveys) or examples of stimuli used in the mini-study were included here.

1 Copies of the research articles attached at end.

COMMENTS:

Nice tables + questionnaire

Format and Overview:

3 Paper was neatly typed, double-spaced, and pages numbered.

3 The title was clear, specific, and not misleading.

3 Each major section (Method, Results, Discussion) was clearly labeled and centered on the page.

3 The subsections of the Results section (Subjects, Materials, Procedure) were indented and underlined.

3 Nonsexist pronouns were used wherever possible.

3 The writing style used was professional and formal.

COMMENTS:

good format but maybe you should start new sections on a fresh page.

I hereby state, on my honor, that I have carefully read, and reviewed the paper, and filled out the above checklist.

Name

Christine Croft
Christine Crockett

Date

5/19/92

Men work and think, but women feel.
Christina Rossetti

The only way for a woman to provide for
herself decently is for her to be good to
some man that can afford to be good to
her. - George Bernard Shaw

INTRODUCTION

Despite the efforts of the Women's Movement, very young children continue to develop beliefs about the occupational achievement of males and females (Albert & Porter, 1983). The problem being investigated is whether children incorporated adult occupational sex stereotypes into their early career considerations. Society has different expectations ^{? sound funny} held for male and female performance. This expectancy narrows the children's professional aspirations to conform to the sex stereotypes they have learned (Gettys & Cann, 1981).

Past studies demonstrate that attitudes toward vocational choice are still quite traditional. Results from other studies support that children clearly perceived occupations as sex-typed. Sex-differentiated attributions for performance exist upon entry to elementary school (Bond & Deming, 1982). For example, Cann and Haight (1983) presented children ranging in ages from 5-1/2 years to 9 years with 16 occupations. Eight female sex-typed and eight male sex-typed. They found that children at each age level discriminated based on sex. Albert and Porter (1983) suggest that before the onset of gender-role stereotyping, children tend

~~and example~~

what age
were
levels
each yr.

Bustillos & Hill --- Sex-Typed Occupations

to associate with their own sex the qualities evaluated in American culture. These qualities are also sex-typed. It was found that boys indicate a large variety of potential occupations than girls. Girls' selections were dominated by two occupations: nurse and teacher (Gettys & Cann, 1981). Both nurse and teacher ^{are?} ~~is~~ used in the present investigation. In almost all the past research sex-typing increased with increasing age. The children learn it young and it becomes inscribed in their thinking. - too many "it's"

The current research is important for recognizing that children need to be provided with a clear understanding that occupations are not categorized into male-only and female-only groupings (Gettys & Cann, 1981). There is still a continued belief for men to feel more aggressive, independent, competent, and dominant than ~~the~~ females (Albert & Porter, 1983). This creates many significant obstacles for females in achieving success in non-traditional fields (Gettys & Cann, 1981). Most of the past research gives no strong evidence of liberalization of attitudes on vocational roles. Since then, more women have joined the work force in non-traditional occupations. We therefore felt it useful to check the data again. } I had to reread to understand

The present research seeks to examine children's perceptions of particular occupations as appropriate for female, male or both. We used the interview method similar to that used by Cann ^{Too personal suggestion - "The researchers for this project"} and Haight (1983), except we conducted two short experiments instead of one.

should be procedure

Bustillos & Hill --- Sex-Typed Occupations

The children were first told descriptions and then titles of various sex-typed jobs. They were then asked to tell which gender, male or female, or both, would be better in this occupation. We hypothesized that the children will be sex-stereotyped when just the title of the job is given. We predicted, however, that the children won't show sex-stereotyping when the occupations are described and no label is attached.

In the present study it was predicted that females will show less sex-stereotyping than males in both testings. Females may be influenced by their mothers entering the work force. It was also predicted that there will be less overall sex-stereotyping by the children than found in past research.

METHOD - *New page*

The method used in the present investigation was interviews. The interviews took place at Lakeland Elementary School in Norwalk, California.

Subjects: A sample of 28 children from the third grade of a public elementary school ^{were} selected. The final sample included 13 females and 15 males. There were 2 White children, 4 African-American children, and 22 Latino children. The subjects ages ranged from 8 to 9 with one female at age 10. All the children except for three were living with both their father and mother.

Bustillos & Hill --- Sex-Typed Occupations

The three who weren't living with both parents were living with their mothers. The subjects were obtained through their teacher, Mr. Paul Quinby, Mr. Bustillos' brother-in-law.

necessary?

Materials: The materials used were one set of 16 cards with descriptions of the sex-typed occupations and 16 cards with the title of the sex-typed occupations. Eight female sex-typed and eight male sex-typed occupations were selected based upon previous research by Cann & Haight (1983). The sixteen sex-typed occupations are listed below:

Male sex-typed occupations:

Doctor
Police Officer
Truck Driver
Mechanic
Lawyer
Boss
Banker
Principal

Female sex-typed occupations:

Secretary
Teacher
Dancer
Model
Librarian
Nurse
Cashier
Cook

The sixteen jobs were written on 3x5 index cards and listed in random order. Each child had a scoring sheet that contained their name, gender, age, and if both parents were living at home with them. If the child lived with only one parent, the sex of

Bustillos & Hill --- Sex-Typed Occupations

the parent was noted. The experimenter recorded each child's answer on the scoring sheet.

Procedure: Each child was interviewed individually by an adult female and again by an adult male. The interviews took place during class time in a quiet corner outside the classroom. When the child ^{sorry} ~~was~~ seated in front of the female experimenter the following instructions were given: "I am going to call out ^{sounds like yell, with one child} descriptions of some jobs. I want you to tell me whether a female, male or both can do these jobs. There are no right or wrong answers. If there are any words that you do not understand, please let me know. Do you understand?" (Gettys & Haight, 1983). When the child was seated in front of the male experimenter the same instructions were given except that the child was given the title of the jobs instead of the descriptions. Additionally, the child was asked if he/she knew anyone who carried that title. If the answer was yes, the child was then asked who that person was.

The occupations were presented by the experimenters in different orders. The experimenters recorded the children's responses after each occupation. The responses were scored as follows:

Sex-typed occupation questionnaire scoring:

BOTH	= 0
FEMALE	= 1
MALE	= 2

Bustillos & Hill --- Sex-Typed Occupations

When the procedure was completed, the child was thanked and asked to return to the classroom.

RESULTS - new page?

complicated sentence
Our research presented some interesting problems in terms of presenting the data with a single chart or diagram. Twenty-eight children were twice asked sixteen questions with a possibility of three responses for each question. Additionally, each questionnaire recorded the age, and gender of the child and which parent lives with the child. During the label portion of the questionnaire each child was also asked if he/she knows anyone (family, family friend) in the particular occupational category and the gender of the individual.

long sentence
sugg. compared to
As if the above requirements did not make it complicated enough, the sixteen categories of the first questionnaire were presented in a different (random) order in the second questionnaire in order to safe guard against the child using a learned response to the categories. This compounded the difficulty of recording differences between the labeled responses versus the description responses.

0
Two separate charts were created, one for the labeled responses and one for the description responses. Each chart consists of 16 rows, one for each occupation, and six columns,

Bustillos & Hill --- Sex-Typed Occupations

three for the male responses and three for the female responses. The individual answers to each question were then tabulated on their respective chart (see Appendix, charts A and B). The labeled and description figures were combined on one chart, three columns for the males and three columns for the females (see Appendix, chart C). The full class totals were then combined into one chart with the labeled responses on the left and the description responses on the right (see Appendix, chart D).

To determine whether the children followed the sex stereotyped trends a simple tally was made of the labeled responses. The sex stereotyped occupation choices are designated with a "*" in the gender column.

should be on separate sheet - as table

answers:	both	female	male	stereotyped
Truck Driver	2	3	23 *	yes
Police Officer	15	2	11 *	no
Doctor	18	3	7 *	no
Nurse	3	24 *	1	yes
Cook	11	13 *	4	yes
Cashier	13	4 *	9	no
Librarian	17	10 *	1	no
Teacher	20	3 *	5	no
Secretary	8	16 *	4	yes
Principal	14	0	14 *	yes
Banker	20	4	4 *	no
Boss	12	1	15 *	yes
Lawyer	13	3	12 *	?
Mechanic	2	0	26 *	yes
Dancer	14	13 *	1	?
Model	3	23 *	2	yes

Chart 1. Sex Stereotyped Occupation Tabulations.

To determine if our research supported our second hypothesis, that the children will be less sex-stereotyping when

Bustillos & Hill --- Sex-Typed Occupations

the occupations are described and not label, a tally was made of the labeled responses and then compared with description responses. The sex stereotyped occupation choices are designated with a "*" in the gender column.

- same notes as on previous page

	Label			Descr			
answers:	both	female	male	both	female	male	stereotyped
Truck Driver	2	3	23*	4	0	24*	same
Police Officer	15	2	11*	14	5	9 *	same
Doctor	18	3	7 *	13	5	10*	more
Nurse	3	24 *	1	6	21 *	1	less
Cook	11	13 *	4	10	10 *	8	less
Cashier	13	4 *	9	14	10 *	4	more
Librarian	17	10 *	1	14	13 *	1	more
Teacher	20	3 *	5	16	11 *	1	more
Secretary	8	16 *	4	2	20 *	6	more
Principal	14	0	14 *	11	2	15*	same
Banker	20	4	4 *	17	3	8 *	more
Boss	12	1	15 *	9	8	11*	less
Lawyer	13	3	12 *	8	2	18*	more
Mechanic	2	0	26 *	2	2	24*	same
Dancer	14	13 *	1	15	11 *	2	same
Model	3	23 *	2	10	13 *	5	less

Chart 2. Sex Stereotyped Jobs. Label to Description Comparisons

To determine if our research supported our third hypothesis, that females will be less sex-stereotyping, ~~was~~ supported male responses were charted (by percentages) and compared to the female responses. The sex stereotyped occupation choices are designated with a "*" in the gender column. (repeated from above)

*7
change
thought*

Bustillos & Hill --- Sex-Typed Occupations

THE MALES	LABELS			DESCRP		
answers:	both	female	male	both	female	male
Truck Driver	16.6	13.3	80*	6.6	0	93.3*
Police Officer	53.3	6.6	40*	53.3	13.3	33.3*
Doctor	66.6	0	33.3*	33.3	26.6	40*
Nurse	6.6	86.6*	6.6	20	80*	0
Cook	53.3	26.6*	20	26.6	46.6*	26.6
Cashier	53.3	20*	26.6	46.6	46.6*	6.6
Librarian	60	33.3*	6.6	53.3	40*	6.6
Teacher	60	13.3*	26.6	60	33.3*	6.6
Secretary	33.3	46.6*	20	6.6	60*	33.3
Principal	60	0	40*	46.6	6.6	46.6*
Banker	66.6	13.3	20*	53.3	13.3	33.3*
Boss	46.6	0	53.3*	3.3	26.6	40*
Lawyer	53.3	6.6	40*	13.3	6.6	80*
Mechanic	0	0	100*	0	0	100*
Dancer	53.3	40*	6.6	46.6	46.6*	6.6
Model	13.3	73.3*	13.3	33.3	33.3*	33.3

Chart 3. Sex Stereotyped Jobs. Male Responses

THE FEMALES	LABELS			DESCRP		
answers:	both	female	male	both	female	male
Truck Driver	7.6	7.6	84*	23	0	76.9*
Police Officer	53.8	7.6	38.4*	46.1	23	30.7*
Doctor	61.5	23	15.3*	61.5	7.6	30.7*
Nurse	15.3	84*	0	23	69.2*	7.6
Cook	23	69.2*	7.6	46.1	23*	30.7
Cashier	53.8	7.6*	38.4	53.8	23*	23
Librarian	61.5	38.4*	0	46.1	53.8*	0
Teacher	84	7.6*	7.6	53.8	46.1*	0
Secretary	23	69.2*	7.6	7.6	84*	7.6
Principal	38.4	0	61.5*	30.7	7.6	61.5*
Banker	76.9	15.3	7.6*	69.2	7.63	23*
Boss	38.4	7.6	53.8*	30.7	30.7	38.4*
Lawyer	38.4	15.3	46.1*	46.1	7.6	46.1*
Mechanic	15.3	0	84*	15.3	15.3	69.2*
Dancer	46.1	53.8*	0	61.5	30.7*	7.6
Model	7.6	92.3*	0	38.4	61.5*	0

Chart 4. Sex Stereotyped Jobs. Female Responses.

Bustillos & Hill --- Sex-Typed Occupations

To determine if our fourth hypothesis, that there will be less overall sex-stereotyping by the children than found in past research, was supported we compared our labeled responses with those given in Cann & Haight's research (1983).

separate page?

	Hill & Bustillos			Cann & Haight
answers:	both	female	male	Male
Truck Driver	7.1	10.7	82.1	100
Police Officer	53.5	7.1	39.2	100
Doctor	64.2	10.7	25.	89
Nurse	10.7	85.7	3.5	4
Cook	39.2	46.4	14.2	32
Cashier	46.4	14.2	32.1	36
Librarian	60.7	35.7	3.5	11
Teacher	71.4	10.7	17.8	6
Secretary	28.5	57.1	14.2	11
Principal	50.	0	50.	89
Banker	71.4	14.2	14.2	30
Boss	42.8	3.5	53.5	98
Lawyer	46.4	10.7	42.8	83
Mechanic	7.1	0	92.8	98
Dancer	50.	46.4	3.5	11
Model	10.7	82.1	7.1	17

Chart 5. Sex Stereotyped Jobs. Research Comparison.

DISCUSSION *- new page?*

Is the child sex-stereotyped or do they have stereotypical views

In agreement with our first hypothesis, our research has shown children to be sex-stereotyped when the occupation label is given. Eight out of fourteen categories followed the sex-stereotyping. Two categories, Lawyer and Dancer were discounted due to use of the "Both" category.

Bustillos & Hill --- Sex-Typed Occupations

RESULTS
Our research disproved our second hypothesis, that the children will be less sex-stereotyping when the occupations are described and no label is attached. Only four out of sixteen categories were less sex-stereotyped when the description was given. Seven were more sex-stereotyped and five remained the same when the description was given.

Our third hypothesis, that females will be less sex-stereotyping, was supported. In the labeling portion of the interview the hypothesis was barely supported with only three of the occupations showing less sex-stereotyping. Two occupations were more sex-stereotyped and eleven remained unchanged. In the description portion, the hypothesis was more firmly supported with nine occupations showing less sex-stereotyping. Four were more sex-stereotyped and three showed no change.

Our fourth hypothesis, that there will be less overall sex-stereotyping by the children than found in past research, was supported. For example, when compared to Cann & Haight's research (1983) eight of the sixteen occupations showed less sex-stereotyping. ^{RESULTS} Four were more sex-stereotyped and four remained the same. Because we included a "Both" category in our interview questionnaire our results may reflect a more liberal point of view than Cann & Haight, which did not include a "Both" category.

RESULTS
Analyzing the individual job categories with Cann & Haight's findings, there was a 61 percent decrease in sex-stereotyping for "Police Officer," 53.5 percent of those questioned in the current

Bustillos & Hill --- Sex-Typed Occupations

survey selected "both" for this occupation. In the "Boss" occupation there was a 45 percent decrease in the "Male" only vote. "Principal" showed a 39 percent decrease as a "Male" only occupation and a 50 percent selection as a "Both" job. "Doctor" showed a 24 percent decrease and a 64.2 percent selection in the "Both" category. "Banker" showed a 71.4 percent selection of the "Both" category, a decrease of 15.8 percent in the "Male" only selection. Of the female sex-stereotyped occupations, "Teacher" showed an 8 percent increase in the "Male" selection and a 71.4 percent vote in the "Both" category.

Of the four occupations that showed an increase in sex-stereotyping, all from the female sex-stereotyping occupations, the differences were less than 18 percent. "Dancer" and "Librarian" each showed a 7.5 percent increase in sex-stereotyping. "Model" showed a 10 percent increase in sex-stereotyping. And "Cook" showed a 17.8 percent increase in sex-stereotyping.

One difference between our research and past literature might be that our population sample included 22 Latino children out of a group of 28. Without further research this is an unknown factor. In agreement with our research one finding, Shepard & Hess (1975), which sampled children from an "educated middle-class" population, a trend toward decrease sex-stereotyping was supported.

Bustillos & Hill --- Sex-Typed Occupations

We conclude that the occupation categories: "Mechanic," "Truck Driver," and "Nurse" remain as extremely sex-stereotyped as they have in the past. We also conclude that children still categorize or organize occupations in terms of male sex-stereotyped and female sex-stereotyped occupations.

Given previous research findings, we conclude that there is a trend toward less sex-stereotyping. But because sex-stereotyping continues in childhood research findings, further research is needed to discover if this based on social stereotypes or on the way children organize their world view. Also, because of our population sampling, further research is needed with a white middle-class sample for valid comparison.

X X X

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-read for Th

COLLABORATIVE RESEARCH PROJECT PAPER GUIDELINES
Dr. Ellen Junn, Dept. of Child Development

1. Purpose and Objectives of the Mini-project:

There are several very important reasons that I have selected this project as one of your assignments in this course. Based on the research on college teaching, as well as on previous student performance and feedback, the major beneficial objectives for this assignment include the following:

- (a) Promoting active, reflective learning through the process of constructing and building your own knowledge base;
- (b) Enhancing your analytic, critical thinking, quantitative reasoning and problem solving skills;
- (c) Improving your organizational and writing skills;
- (d) Promoting your communication and collaboration skills;
- (e) Getting hands-on experience working with children and integrating your observations with current theory and research;
- (f) Improving your research, computer, and library skills;
- (g) Improving your understanding of empirical research;
- (h) Exploring your specific interests in greater depth;
- (i) Getting a chance to work more closely with me and with other students in class!
- (j) Discovering something new and having fun!

2. Find a Partner:

Since this is a collaborative research project, you will need to find another student in class that you can work with. As you talk and meet other students in the class, have in mind some of the possible topics you might be interested in to help you find someone with mutual interests (see last page of this handout for some possible general ideas).

As you will come to see, working with a partner will actually be beneficial since you will be able to share the effort and responsibility. Although generally, it may be easier to meet together in person when writing up your project; it is not absolutely necessary. Perfectly good papers can result from: effective telephone communications; by using a single collaborative outline for the entire paper **before** writing the subsections separately; and by judicious rewrites and edits of each other's sections. To make this work effectively, plan very carefully and talk to one another a lot. There will also be some class time devoted to your being able to work with your partner. So don't despair.

Remember, one of the objectives of this assignment is to promote your collaborative learning skills. In other words, learning from each other and being able to work effectively on some common task with others is absolutely vital to success in almost any occupation or job. The key to working well with your partner is being responsible and reasonable with each other. Be fair, discuss your strengths and weaknesses openly and divide the work in a mutually agreeable and fair manner. Periodically through the semester, I will ask you to report on your progress together and whether or not you are working well together. Should problems arise, please let me know as soon as possible and together we can work out some acceptable solutions.

3. Choose a Topic:

There are many ways to find a topic for your project. You can scan the textbook or consult the handout of possible topics at the end of this handout. Another approach is to go to the library and look through actual journals such as Child Development, Developmental Psychology, Journal of Experimental Child, or Merrill-Palmer Quarterly for more ideas. In choosing your mini-project, you may either develop a new question or experiment, or you may want to repeat or replicate a previously done experiment, or you may want to replicate and further expand upon a prior experiment. This project is not meant to be overwhelming--we can work out the details during our group meetings together. I will try and provide you with as much guidance and support as possible, just don't be afraid to ask! Your topic and a brief written outline is due in class on the date found on the syllabus.

4. Literature Review:

The next important step will be for you and your partner to go the library and locate more specific research information on your topic. You may start by looking in your book and starting with the references you find there. In addition, you will definitely need to access the PsycLIT (or ERIC) computerized databases found in the reference section on the first floor of the library. PsycLit allows you to locate journal articles on your topic by selecting keywords for the computer found in the Thesaurus of Psychological Index Terms. We will be discussing this search process in more detail in class.

Your research project report should have about ten relevant and relatively recent, scholarly RESEARCH JOURNAL articles as references. You may wish to include additional chapters or information from scholarly books, but use of popular mass media, such as newspaper or magazine articles is discouraged. You will need to bring these articles with you to your first individual group meeting with me. Also, you will need to attach all of these articles at the end of the appendix of your paper when you turn it in.

NOTE: In many cases, our library will not carry the periodical you may be looking for. In this case, go to the circulation desk and fill out a request form with all of the information for that specific article. Within in about 3-7 days the library should be able to locate a copy for you. Alternatively, the librarians at the information center will be able to tell you which library closest to CSUF has the journal and you may wish to travel there to make your own copy more quickly.

5. Designing the Observations and Procedures:

Reading the research materials from your library search will help you a great deal in deciding what to do and how to do it. As mentioned before, you may want to replicate a previously published study or design your own, given what you learned from your literature search. You should now be in a position to design your observations, materials, (e.g., surveys, stimuli, etc.,) and procedures. You should also decide exactly how you will collect your data and how to tabulate your findings. Put all of your materials together and schedule your individual meeting with me so

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that we can review and revise your materials together if necessary.
Be prepared to discuss your plan in detail at our first or second
group-instructor meeting.

To sum up thus far, the schedule is as follows:

- (1) Find a partner; decide on a topic; and submit a brief outline or paragraph of your topic by the deadline on the syllabus;
- (2) Conduct your library research and make copies of the relevant research articles;
- (3) Schedule a meeting with your partner and me by signing up for a time on the schedule sheet that I will provide later. During this first meeting, you must bring and have ready to discuss: (a) your topic idea; (b) bring all of your research articles with you--you should have read your articles and picked the one(s) you found most interesting; and (c) have some ideas of the mini-study you would be interested in doing. The more prepared and specific you are in this first meeting, the easier the next steps!
- (4) During our first meeting, we will plan out your mini-study focusing on the actual methodology (subjects, interview or experiment, stimuli, data collection procedures, etc.). Once this is clear in your minds, I will give you your peer edit guide and we will schedule a second meeting.
- (5) At this second meeting, you will bring your actual materials (e.g., interview questions, stimuli, etc.) and discuss your exact procedure and data collection methods in detail. We will also discuss the quantification of your results. Following this, you will be given your parental consent form and you will be ready to do your little study!

6. Collecting the Data:

Many of you have access to children through friends, family, or jobs. You and your partner will need to collect data from a minimum of 4 children--2 younger and 2 older for this project. You are allowed to use your own children as subjects, with the provision that your partner, and not you, observe or interview your child.

Infants and young children (ages 5 months to 5 years) may be observed at our campus Children's Center (off State College Blvd, behind Public Safety). You are required to call ahead (773-2961) to make arrangements and an appointment before arriving to observe the children.

This is vital, since different children of different ages are present at different times of the day and doing different activities during the day. Schedule early, because the center has a policy of allowing only 3 students a day to come in and observe. When you arrive, introduce yourself politely and ask for guidance as you explain your project's needs. Be flexible and accommodating at all times. Collect your data unobtrusively: You may prefer being behind the one-way mirrors in order to take detailed, complete notes. If you elect to go into the classroom, you will only be allowed to use a checklist, rather than taking notes. Respond to children's questions directly, but refrain from getting involved in extensive interactions or activities. When you are finished, thank the director and teacher.

If you are observing or interviewing children outside of the Children's Center, you are required to provide the parent with an explanation of your project and have them sign the Informed Consent

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Form found at the end of this handout. In addition, at the conclusion of your study, participants should be given some information of what you found and what other researchers in the field have found. This is referred to as debriefing. You may choose to summarize your findings either verbally or in a short written summary that you make available to the parents of your subjects. Remember though, in order to respect confidentiality, you cannot give out information about any specific subject; instead, you may summarize the overall group results.

This data collection step is an important one; if you do not collect enough data in an objective and detailed manner, your paper will be of limited value. Think carefully and prepare well **before** you actually see the children in your study!

Finally, remember that your subjects are real children with real feelings and ideas. Be courteous, gentle, honest, and sensitive at all times. If you sense a child becoming upset, reassure the child and always give the child the freedom to discontinue the session if he or she wishes.

7. Issues in Writing the Research Report:

In writing the research report, you will be required to adhere to the organizational format described below. However, there are a number of important issues that you should understand before getting into the nuts and bolts of writing the paper itself. Please take these points very seriously when writing your paper: Also use the peer edit handout/assignment!

!!! → (a) Writing Style and Clarity--Clarity in writing is essential. Be precise and clear in presenting your ideas. In addition, coherence is also an important aspect of your assignment. Ideas should be presented in an orderly, logical progression. Use correct grammar and avoid sloppy typographical errors. This research project paper is an important assignment and I expect you to turn in a polished, very professional product; thus, I have a rule that, if there are more than 5 typos or grammatical errors per page on your report, I will turn the paper back to you without grading it and you will lose 25 points! In other words, be smart, start early! Make an organizational outline that lists and prioritizes your major points. Expect to write at least one or two rough drafts, and do the optional extra credit peer editing assignment **before** you turn in your final copy.

(b) Properly Acknowledge the Work of Others--When writing the paper you must rely on your own words and ideas. It is considered plagiarism if you misappropriate another author's words or ideas without citing the author and giving them credit. As already discussed in the course syllabus, plagiarism is a serious University offense, and the penalty can be quite severe. Proper acknowledgement of others' work involves citing the authors' last name, followed by the year of the publication in parentheses. For example, Cozby (1985) has written a book that might be useful to some of you as you organize and write your paper (The book is entitled, Methods in Behavioral Research, 3rd ed.). These citations are later documented in more detail in the References section at the end of your paper.

(c) Sexist Language--Try to avoid sexist language. In times past, some of us were taught to use the generic "he/his" when writing. Today, most scholarly written works have abandoned this

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practice in light of much research showing that the use of the "male" pronoun does, in fact, bias readers and may contribute to sexist stereotypes. Although it can sometimes be difficult, careful rephrasing of sentences can circumvent this problem. For example, "The worker is paid according to his productivity" can be changed to, "The worker is paid according to productivity." Another strategy is to use the plural form wherever possible: "The child shows preference for his mother" can be changed to "Children show preference for their mother." One further note, the use of "s/he" is considered awkward and should be avoided.

(d) **Working Collaboratively**--Since you will be working in pairs, you will need to work out an arrangement so that both of you will contribute equally to the execution of the research project and to its subsequent write-up. This means that your group can turn in one combined paper. If you find that you are running into difficulty, please see me personally for guidance.

(e) **Back-up Copy**--It is always wise to keep an extra copy of the term paper for yourself after handing in the original, in the unlikely event that your paper is somehow lost or misplaced.

8. FORMAT FOR WRITING THE RESEARCH PAPER:

Your report should be organized into five major sections: introduction, method, results, discussion, and references/appendix. You should center the name of each section (see example of format below) above each relevant section of the paper.

Introduction

The introduction is an important part of your paper. In this section, you: (1) Introduce the reader to the problem or question being investigated in your project; (2) Review and summarize previous scholarly research literature and theory and show how this information is relevant to your project; (3) Explain why the topic you have selected is significant or important; and (4) Clearly state the predictions and hypotheses for your project. Spend some time here thoughtfully selecting, organizing, prioritizing, and presenting your main points and the studies you include in this section.

Method

The method section should be relatively short and straightforward; the point is to be brief, yet informative. This section provides the reader with detailed information about how your study was conducted. Ideally, there should be enough information in the method section to allow a reader to replicate your study. The method section is typically divided into a number of subsections (underlined and indented on the left) that follow in the format below.

Subjects: The exact number and background information of all of the subjects should be described. Demographic variables such as exact age, sex, and other variables important to your particular topic should be given. For example, if studying sibling interactions, you will obviously need specific information on your subjects' siblings. Other variables that might be important might include such things as parental marital status, parental work status, type of school or daycare attended, etc., However, be

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respectful of asking for information that might intrude on parents' sense of privacy. Moreover, when reporting specific demographic information, do not use subject's real names. In order to protect subject confidentiality, use pseudonyms or make up arbitrary identifying initials. In this section, also describe how subjects were recruited.

Materials: Describe any surveys, questionnaires, stimuli, etc., used for your subjects in sufficient detail. Make sure you include any written materials in the appendix section at the end of your paper. Be brief and to the point.

Procedure: In this brief section, explain your procedure, or how your study was conducted. In addition, describe where the observations took place, and how you collected your data.

Results

In this section you must present, in WORDS AND SENTENCES, (but not discuss or interpret) the results as clearly as possible. First, you will need to record and categorize data in some quantitative or numerical way in order to be able to present simple percentages, frequencies, means, etc.,. One way to do this is to compute your data in ways that are similar to the previous studies done on your topic. This way, when you get to the discussion section, you will be able to directly compare your results with data from previous studies. Next, make your graphs and tables organized and understandable with clear headings or captions. If you are still unsure about how to do this, please consult with me during our individual meetings.

Second, you should present your quantitative results from your tables and graphs by using simple sentences to describe what you found. One very good strategy is to discuss the results for each of the hypotheses that you proposed in your introduction section in sequential order. As you present your results, refer the reader to the appropriate table or graph located in the appendix of your paper. For example, "Table 1 displays the percentage of children who engaged in prosocial behavior as a function of different ages and sex. Overall, seventy percent of the children engaged in prosocial behavior in Phase 1, while only 20% acted prosocially in Phase 2. Across phases, both boys and girls displayed equal amounts of prosocial behavior. Finally, the older children behaved more prosocially than the younger children (65% vs. 35% respectively)." In this section, you may also include typical examples to illustrate your points, for instance, "Prosocial behaviors included both verbal requests (e.g., 'Can I help?') or verbal expressions of sympathy (e.g., 'I'm sorry that happened.') to nonverbal gestures (e.g., hugging, kissing, or sharing)." Then where relevant, insert the appropriate table by doing the following:

insert Table 1 about here

This is an important section. You should be clear, organized, and understandable. If your data are too vague or uninformative,

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then the entire paper will suffer. You need to demonstrate quantitative evidence that will support or refute the original question or hypotheses you started out with; so keep your original hypotheses in mind as you do this section.

In addition, it is required that you attach your original, hand-collected data sheets or transcripts in the appendix (read Appendix section below for more details).

Discussion

This final section of the paper is one of the most important and heavily weighted portion of your assignment. First, give a very brief summary statement of the major results your study. Second, and more importantly, you must discuss, interpret, and integrate your findings in light of the existing research and theory from your knowledge of your literature review, as well as from material covered in class and in the readings. What conclusions can you draw? Do your results support, refute, or extend the prevailing literature? Explain why or why not. Do your findings have implications for future research or application? Be critical of your research and of others'. What have you learned? Be creative; you may want to suggest alternative methods, ideas, or new directions for future investigation. In short, this is the section where you bring the entire project together--new data and old--and try and make sense of it all. This is an important section, so devote extra energy and thought to this part of the assignment.

References

The list of references for all your citations begins on a new page. Do not omit any sources and do not add any sources that you did not cite earlier in the paper. Follow the format below or consult the American Psychological Association Manual for further details.

For a book:

Jones, R. J., & Smith, F. W. (1986). The psychology of childhood. Chicago, IL: Plenum.

For a journal article:

Brown, H. B. (1987). The continuity of temperament from birth to age 8. Child Development, 44, 324-335.

Appendix

In this last section, you must include your surveys, questionnaires, or stimuli materials, as well as your hand-scored subject data collection sheets. Don't worry if they are messy, I simply need to check them.

Use the following list to order your materials for the appendix:

- (1) First, include, in order, your tables, figures, and/or graphs.
- (2) Second include the actual data transcripts, interviews, etc.,
- (3) Next, include your stimulus materials, if applicable.
- (4) Lastly, attach all of your articles or xeroxes of the abstracts of your articles (books need not be included here).

C325: POSSIBLE RESEARCH REPORT TOPICS

There are a host of possible topics that would be interesting and exciting to investigate involving the middle school-aged child. Remember, that you and your partner must turn in a brief written paragraph or outline of your topic by the date specified on the syllabus, and have your project approved by me before proceeding further. Some possible ideas for topics follow below. However, please do free feel to explore and propose other ideas not on this list!

- physical fitness or sports and exercise involvement
- nutrition and eating patterns
- Piagetian cognitive development (e.g., conservation)
- memory development
- metamemory or metacognition development
- reading habits or preferences
- reading materials and school curriculums
- bilingualism and reading/language skills
- children's books and sexism
- geographical literacy
- computer use and attitudes
- television viewing habits
- after-school activities
- homework behaviors and attitudes
- attitudes toward teachers and school
- achievement beliefs and parental attitudes
- teacher expectations and student achievement
- classroom instructional techniques and student outcomes
- classroom discipline and student compliance or attitudes
- developments in self-concept
- friendship concepts and behaviors
- concepts about divorce & other marital transitions
- concepts about popularity
- beliefs about sex differences
- heroes/role models
- sex role stereotyping
- future occupational goals
- father and mother involvement
- sibling relationships
- moral development stage approach
- any of the above and ethnic or cultural differences

OK 2/13

THE CSUF LIBRARY AND YOU:

Okay, now that you've completed your PsycLIT search, and you feel reasonably confident that you have identified some relevant journal articles, your next step is to locate the journal articles themselves. Fortunately, this is not as bewildering as it might appear at first blush! Just read the steps outlined below, and you should become empowered!

(1) Head for the nearest computerized card catalog either on the first or second floor of the library. You will use this computer to find out whether our library carries a particular journal and what the call number is. When you find a computer, the screen should display a menu with the following:

A > AUTHOR
T > TITLE (If there is no menu, just press the N key
S > SUBJECT etc... to get the menu and start a new search.)

(2) Next, press the T key for the Title option. Then type the title of the journal. The computer will search to see if the title appears in our library. For example, if you type in the journal, Child Development, the computer will respond, "51 TITLES FOUND, 78 entries" and then display the first 8 entries. Since the journal title, "Child Development" is so general, it is also found on many books; however, we are not looking for a book, so we need to look for an entry marked "periodical" (another name for a journal, since it comes out periodically). So, you need to press the F key to go forward through the list until you find the Child Dev. periodical. If you do this you will find the periodical at entry #18 with call number HQ750.A1 C45. Write this number down!

(3) To locate another journal title, simply press the A key and then enter the next title to find and record that call number.

(4) As an example, below are some call numbers for several journals:

Child Development: HQ750.A1C45
Developmental Psychology: BF699.D46
Merrill-Palmer Quarterly: HQ1.M4
Psychological Bulletin: BF1.P7

(5) Now with the call numbers of your journals securely in hand, you need to go to the second floor where all the periodical (journals) are housed. When you enter, facing the information desk, all the journals beginning with call numbers A-M are to your left and back (H first, then going back to B and A) while the journals with call numbers beginning with N-Z are to your right and back. Just systematically locate each journal, then the specific volume and finally the pages of your article for xeroxing.

(5) If your particular article is on microfilm, you simply need to locate the same call number on the metal file cabinets by the study tables and information desk. Find the specific roll in the drawer and carry it to the desk and ask for assistance in putting it in the machine. You'll find that it really is not complicated, and xeroxes can easily be made from the microfilm machine as well. Don't let microfilms intimidate you!

(6) Remember, if our library does not carry the journal, go to the circulation desk with the specific reference information and request it.

(7) Once you get these simple steps down, you will be able to enter any library almost anywhere and have access to whatever information you want!

K

GUIDE TO PsycLIT**Function Keys**

F1 Help	F5 Index	F9 Thesaurus
F2 Find	F6 Print	F10 Command Menu
F3 Guide to PsycLIT	F7 Restart	F10, D Download
F4 Show	F8 Xchange	F10, O Options
		F10, H Search History
		F10, C Clear Search History

- To Use the Thesaurus:**
1. Press F9
 2. Type in a word or phrase.
 3. Press Enter to display the List of Permuted (Rotated Alphabetical) Terms.
 4. Find the appropriate word or phrase using up and down arrow keys to position the cursor on the selected term.
 5. Press T to see the selected Term Details.
 6. From the Term Detail screen, you may:
 - a. Select one or some of the terms.
 - b. Select the term and all of the narrower terms (Explode).
 - c. Select another term and see the Term Details for it.
 7. If you have selected one of more terms or exploded a term for searching, press F (for FIND) to execute the search.

- To Show Records:**
1. Press F4 to show records from the last search statement.
 2. Press O for Options to change the SHOW defaults.

- Browsing:**
1. Press PgDn for the next screen.
 2. Press PgUp for the previous screen.
 3. Press Ctrl + PgDn for the next record.
 4. Press Ctrl +PgUp for the previous record.

- Lateral Searching:**
- In browsing through records, you may select additional terms for searching.
1. Use arrow keys to position cursor on the term.
 2. Press S (for Select).
 3. Press F (for Find) to execute the search.

- Marking Records:**
- Records may be marked for later printing, reshowing, or downloading.
1. Display record (or part of record).
 2. Use up and down arrows to position the cursor anywhere on the record.
 3. Press M (for Mark Record).

- Unmarking Records:**
1. Use up and down arrow keys to position the cursor on the desired record.
 2. Press U (for Unmark Record) to remove the asterisks.

- To Save Search History:**
1. Press F10 and H (for History)
 2. Press S (for Save).
 3. Press C (for Change Options).
 4. Follow directions in dialog box.
 5. Press S (for Start Saving).

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Child Development Department

LEARNING HOW TO USE PSYCLIT SEARCH

PsycLIT is a computerized, on-line database that permits you to specify topics of interest and search for psychological journal articles written about those topics. While it is not a difficult program to use, you will need to become familiar with some basic concepts and procedures. This assignment is designed to provide you with a step-by-step guide to getting on the system and being able to use it effectively. First, read then follow the steps below:

I. Compose your research question: Write out in one sentence, your particular research question. Take the following hypothetical example,

"Do children who receive more love from their parents score higher on IQ tests?"

II. Identify key terms in your sentence: Begin by underlining each of the important concepts or ideas in your research question. Then check the Thesaurus of Psychological Index Terms, (book or on-line) to see if these terms are valid. For the example above, the concepts you might check are:

"children", "love", "IQ"

USING THE COMPUTER:

1. Look at your screen, you should see a greeting and a list of database options available with a letter (A through M) before each one. If not, press both the **Ctrl + Break** keyes simultaneously and follow any additional commands (e.g., **Esc**) to exit the previous program, if necessary.

2. Once you see the welcome and database listing, press the **K** key to select the PsycLit program and wait until it is ready.

3. To access the on-line thesaurus for key words, press the **F9** key.

(a) After the word "Find:" you may type in each concept you identified earlier to see if they appear as a valid keyword.

(b) Use the cursor arrow keys or the **Pgup** or **Pgdn** keyes to move through this list.

(c) When you find the term you want and it is highlighted and flashing, press the **S** key for select this term.

(c) You may want to press the **enter** key to see more information about this term. For example, under the term "love", you will find that the term "affection" is also a valid search keyword. Include this term in your search as well by pressing the **enter** or **S** key.

- IMPORTANT NOTE:

- * **Esc** key will generally return you to the previous screen
- * **Tab** key or **space bar** followed by the **enter** key will allow you to change or select a different highlighted, menu option at the bottom of the screen.
- * **ctrl + break** keyes simultaneously will generally abort the program or terminate printing.
- * **F2** function key will return you to the "Find" prompt.
- * **F7** function key will restart your PsycLit search.
- * **F1** is help key and **F3** is the guide to PsycLit

(d) Follow each step of the example below:

1. Press the **F9** thesaurus key.
2. After the "Find" prompt, type in **love**, then **enter**
3. You should see the thesaurus list with the valid keyword, "love" highlighted. Press **enter** to see more information about this term. You should now see that the term was introduced in 1973 and additional keywords, such as "affection".
4. Press **Tab** key (or **space bar**) to move the highlighted box over "FIND", then **enter**. After the "FIND" prompt, type **love** and **enter**. On the screen, you should now see:

<u>No.</u>	<u>Records</u>	<u>Request</u>
#1	1511	LOVE

This means that the computer located 1511 records or articles with the keyword "love" somewhere in the descriptor field (i.e., title or abstract).

4. After the "FIND" prompt, type the second keyword, **affection**, then **enter**. On the screen you should now see:

<u>No.</u>	<u>Records</u>	<u>Request</u>
#1	1511	LOVE
#2	436	AFFECTION

5. Press the **F9** key for the thesaurus and type in **IQ** to check if it is valid keyword. Press **enter** for more details about the keyword, then **F2** when finished reading to return to the record screen. After the "FIND" prompt, type in **IQ** then **enter**:

<u>No.</u>	<u>Records</u>	<u>Request</u>
#1	1511	LOVE
#2	436	AFFECTION
#3	3000	IQ

6. Press **F9** for thesaurus again to check on the keyword "children" (PsycLIT defines children as 0 to 12 years). Type in **children**, then **enter**, to see more information on more specific search terms, such as "Preschool Age Children," "School Age Children," etc. Exit back to record screen by pressing **F2** and typing in **children** and **enter** to see how many records include the keyword "children":

<u>No.</u>	<u>Records</u>	<u>Request</u>
#1	1511	LOVE
#2	436	.AFFECTION
#3	3000	IQ
#4	45615	CHILDREN

III. Combining your key search terms:

You may use 3 "operators" to instruct the computer to search for your terms. These operators are:

- "or"=searches for articles with either term
- "and"=searches for articles only with both terms
- "not"=searches for first term, but excludes second

1. After the "Find:" type in your search statement. For example, you might first look for only articles that discuss "love", "IQ", and "children" in a single study by typing in the following search statement: **#1 and #3 and #4**. Wait while the program executes the search. When 100% completed, you should now see on your screen the following:

<u>No.</u>	<u>Records</u>	<u>Request</u>
#1	1511	LOVE
#2	436	AFFECTION
#3	3000	IQ
#4	45615	CHILDREN
#5	3	#1 and #3 and #4

This means that the search located just 3 records or articles that discussed love, IQ, and marriage together

IV. Examining the individual records in detail:

The number of records your search locates, will guide your decision of how to examine them. For example, if you find that over 200 references appear, you may or may not want to read every one! This may mean that you need to use other more specific keywords and/or operators to narrow your search. Otherwise, to read each record, press the F4 function key to display the author, title, and abstract. Use the **cursor arrow** keys or **PgUp** or **Pgdn** keyes to move through all of the records. For example, this search located 3 articles: The first one by Walsh, Beyer, & Petee (1987), the second by Brothers (1986), and the third by Verma & Saxena (1983).

V. Marking the record you want to print out:

You must mark the record you wish to print out by pressing **enter** the **M** key at the chosen record to alert the computer to print out this entry. If you want all of the records printed, simply press the **F6** function key. When a record has been marked correctly, asterisks ******* will appear all along the left margin of that entry.

To change options, such as printing out the abstract and not just the author/title citation, press the **Tab** key to move the highlighted box to the appropriate command in the "menu" section on the bottom of your screen. Position the highlighted section to **CIT** with the **Tab** key and type over it with the word, **ALL** to print up the abstract and not just the author/title citation. Then press **enter**.

VI. Printing your selections:

Once you have selected all of the specific record entries and marked them appropriately, you need only press the F6 function key to begin printing the records you have marked.

To return to your record screen and run another combined search, press F2, then enter your next search and enter.

VII. Exiting the program:

To terminate your search for the next user, move the Tab key to the exit option on the menu at the bottom and press enter or you may try ctrl + break keyes simultaneously and tab over until the highlighted menu option rests over the quit option and enter.

Your Name: Joe Rustini'sCourse: 325

great!

Trial Individual Assignment:

Each one of you must now turn in the following sheet indicating the correct answers and include a copy of the abstract requested below. This means that each one of you must access and print out the required information ON YOUR OWN!! Of course, you may help each other, but try to actually get on the computer and work it out by yourself as much as possible. GOOD LUCK!

1. Search for the following keywords and state how many records were located for each term below:

Request:	No. of Records:
LOVE	<u>1653</u>
AFFECTION	<u>469</u>
IQ	<u>3165</u>
INTELLIGENCE	<u>7584</u>
CHILDREN	<u>48953</u>

2. Combine keywords using the appropriate operators so that you will locate all the articles that discuss **love** or **affection** and **IQ** and **children**.

(a) How many records were located? 4

(b) Write down the authors names for each article below:

- (1) Feldman, Case, Rincovir, Tuuns, et-al
- (2) Walsh, Rayer, Detel
- (3) Brothers
- (4) Wilson, Cantar, Gordon, Zillman
- (5) Verma, Saxena

(c) ~~Now print out and include the fourth citation with the entire abstract by Wilson, Cantor, Gordon, & Zillman (1986) and attach it to this assignment.~~

3. Now combine the following keywords using the appropriate operators so that you will locate all the articles that discuss **love** or **affection** and **intelligence** and **children**.

(a) How many records were located? 5

(b) Write down the title of the article from the fourth article by Agarwal (1985) below:

Intelligence Differences & affectual deprivation

CONGRATULATIONS ON LEARNING PsycLIT! As you can see the kind of search and terms you use can be extremely varied and creative. Think carefully about how you run your search

RECEIVED 10/10/10

10/10/10

10/10/10

CHILDREN
DATE: 10/10/10
LOCATION: 10/10/10
NOTES: 10/10/10

TRENDS
= PMS
= UNIONS
- HANDICAPS

10/10/10

10/10/10

10/10/10

10/10/10

C325-Middle Child Class Telephone List, Spring, 1992

<u>Name</u>	<u>Phone Number</u>	<u>Location</u>
Ashokan, Vanitha-	310-943-8288	Whittier
Bustillos, Joseph-	714-832-7778	Tustin
Campbell, Shireen-	714-551-2709	Irvine
Carboni, Stacey-	714-779-8129	Yorba Linda
Colwell, Margaret-	714-472-6487	Mission Viejo
X Crockett, Christine-	714-995-6883	Buena Park
Donor, Makanani-	714-630-2199	Anaheim
Ernandes, Lucrecia-	714-778-3323	Anaheim
Gilkison, Katheleen-	714-999-0905	Anaheim
Hailey, Laura-	714-589-9701	Trabuco Canyon
Halsema, Nancy-	714-840-4522	Huntington Beach
X Hill, Felicia-	714-525-5073	Fullerton
Hudson, Kimberly-	714-839-9302	Fountain Valley
Hudson, Peggy	213-693-3837	Whittier
Jacklin, Valerie-	714-771-1436	Orange
Lopez, Lesli-	714-532-5638	Orange
Lunsford, Nat	714-738-0497	Fullerton
Martin, Maryanne-	714-693-9727aft7pm	Yorba Linda
McDonough, Holly-	714-447-6909	Fullerton
McNally, Kelly-	714-987-8184	Alta Loma
Moore, Maria-	714-871-8239	Fullerton
Nay, Vicki-	714-524-3629	Yorba Linda
Newcomer, Jacque	714-937-5896	Orange
Nguyen, Lyanne-	714-590-4665	Chino Hills
Olsen, Julie-	714-871-4607	Fullerton
Paule, Abby-	714-528-0118	Fullerton
X Penner, Tammie- 774-7058	714-774-7058	Anaheim
Persons, Marcy-	714-432-9465	Costa Mesa
Ross, Jennifer-	714-777-1518	Yorba Linda
Sherwood, Stacy-	714-841-7867	Huntington Beach
Tatman, Allyson-	714-523-1707	Buena Park
Tellefsen, Tanya-	714-526-4026	Fullerton
Wells, Cindy-	714-490-0282	Anaheim

Joe Bustillos (714) 832-7778
Flea Hill (714) 525-5073
Middle Childhood Development
Research Paper Outline/Treatment

Sex Role Stereotypes

Definition:

Sex role stereotypes = begins with the fundamental belief in a difference between males and females, that some jobs/behaviors are appropriate/inappropriate for men/women (dad's/mom's).

Purpose:

We are testing for environmental relationship to sex role stereotype quotient.

Experiments/Tests:

Semi-individual graphic test:

1) "Coloring book" pages with people in ^{stick} ~~uniforms~~ - ~~"unisex"~~ uniforms depicting occupations ~~with~~ faces/sex traits left off, to be filled in by test subjects: *uniform / sex → ♂, ♀, both*

- a. medical doctor
- b. nurse
- c. police officer
- d. school teacher
- e. business person
- f. secretary
- g. president of U.S.
- h. swimsuit model
- i. football coach
- j. cheerleader

labels

descriptions

who is _____

Group Oral tests:

1) TV show reversals: favorite TV show family with mother/father roles reverse: eg., Simpson's with Marge at Nuke plant, Homer caring for kids; Married w/ children with Al at home on the couch, wife at the shoestore . . . Procedure: ask for names of favorite TV families (TV shows, note shows with no family roles, factor of TV shows to TV shows with no families, James Dean TV), how many watch said show (count hands, number by sex of total); reverse mother/father roles, who would watch (count hands, number by sex, number changes total/by sex).

2) School bully situation: 6th grade bully (same sex/different sex), rescuer (same sex/different sex):

- a) question, it's okay to walk away from bully (ss/ds)---count hands (number, and by sex)
- b) question, it's okay to let rescuer help you (ss/ds)---count hands (number, and by sex)

3) Voting for president of the U.S. (use graphic aids---eg., photographs); question: would you vote for this person (m/f)

What are we looking for:

- 1) cultural/ethnic factors**
- 1a) (parent's) economic factors**
- 1b) (parent's) educational factors**
- 2) family stability factors**
- 3) single parent factors**
 - same sex parent -**
 - m to m**
 - f to f**
 - opposite sex parent**
 - m to f**
 - f to m**

Joe Bustillos
Felicia Hill
Middle Childhood Research
"Male" Occupation Labels

Doctor: A person who works in hospitals, proscribes medicine and performs surgery.

Police officer: A person in a uniform who issues traffic tickets and arrests criminals.

Truck driver: A person who drives a big vehicle, some of these vehicles are carrying gasoline, sometime milk, sometimes some ones furniture.

Mechanic: A person who works on or fixes cars and trucks and airplanes for a living.

Lawyer: Someone who studies/studied the law and works in a courthouse.

Boss: Someone who runs the business, the person customers want to complain to when they don't like "the service."

Banker: The person in charge of the place where they make money loans, and have savings and checking accounts.

Principle: The person in charge of the whole school.

① Aca - give simple description.
- ask to identify this description

② Joe - give labels
- ask "Do you know anyone who is a _____?
M/F?"

③ 16 cards w/ description & #.
16 cards w/ label & #.

④ separate paper for each child

<u>S#</u>	sex <u>M</u> <u>F</u>	age = _____	parents = <u>M</u> _____ <u>F</u> _____
1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8		16	

2 = males

1 = females

both = 0



Child Development Program
(714) 773-3861

INFORMED CONSENT STATEMENT FOR PARENT/GUARDIAN

Dear Parent or Guardian,

_____ is a student currently enrolled in California State University, Fullerton's Child Development course C325 a course examining development during middle childhood. As part of the course, students are required to observe or interview school-age children to enhance and expand their knowledge. All students have already secured approval for their project from the professor before asking for your permission to observe or interview your child. Please read the points below before signing the form.

1. This is not a psychological test or evaluation.
2. If applicable, you are welcome to review the interview questions before your child is interviewed, and you may eliminate questions you do not wish asked of your child.
3. Your child will be told that he or she can refuse to answer any questions or stop the session at any time.
4. Your child's answers will be kept completely confidential in accordance with standard ethical research policies. Your child's answers will be recorded anonymously, without identifying names.
5. Should you have additional comments or questions, you may contact the professor of the course, Dr. Ellen Junn, Child Development Department, California State University, Fullerton, (714) 773-3740.

I have read the informed consent information above and I give my permission for my child(ren) to be observed or interviewed by providing my signature below.

Parent/Guardian

Child's Name

Date

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Middle Childhood Development Research Project
"Sex-Typed Occupations"

LEWIS

Testers:

Joe Bustillos []
Felicia Hill [*]

Subject: _____ Sex: M ___ F ___ Age: _____
parents: M ___ F ___

Flea: ** Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

1. A person in a uniform who gives traffic tickets and arrests criminals (Police Officer).

2. This person moves their body and feet to music and performs in front of an audience (Dancer).

3. This person answers phone calls and uses the typewriter. This person keeps records and writes letters (Secretary).

4. A person who works in hospitals, proscribes medicine, and performs surgery on patients (Doctor).

5. This person runs the business. This is the person customers want to complain to when they don't like "the service." (Boss).

6. A person who works at a cash register at a store. Takes your money when you buy an item (Cashier).

7. This person is in charge of the library and lends out books to people (Librarian).

8. Someone who studies law and works in a courthouse (Lawyer).

9. A person who works on or fixes cars and trucks or maybe airplanes (Mechanic).

10. This is a person who poses for a camera for pictures in magazines and books (Model).

11. A person who drives a big vehicle, some of these vehicles are carrying gasoline, sometimes milk, sometimes someones furniture (Truck Driver).

12. This person works in a school, educates or gives lesson to children and other people (teacher).

13. This person is in charge of the whole school (Principal).

14. A person who works in a hospital helping the doctor and taking care of the sick or someone who's hurt (Nurse).

15. The person in charge of the place where they make money loans, and have saving and checking accounts (Banker)

16. This person makes the food you eat in restaurants or fast food places (Cook).

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Emmanuel Fianero Sex: M ☒ F ☐ Age: 9 1/2
parents: M ☒ F ☒

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

- | | |
|------|-------|
| 1. 0 | 9. 2 |
| 2. 1 | 10. 1 |
| 3. 2 | 11. 2 |
| 4. 1 | 12. 1 |
| 5. 0 | 13. 2 |
| 6. 0 | 14. 1 |
| 7. 1 | 15. 0 |
| 8. 2 | 16. 0 |

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Luzanna Plancarte Sex: M F ✓ Age: 8
parents: M F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 2
2. 0	10. 1
3. 1	11. 2
4. 2	12. 1
5. 2	13. 2
6. 2	14. 1
7. 1	15. 0
8. 0	16. 0

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [x]

Subject: David SANC Sex: M / F Age: 39
parents: M F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 2	9. 2
2. 1	10. 0
3. 1	11. 2
4. 1	12. 0
5. 2	13. 0
6. 0	14. 1
7. 0	15. 0
8. 2	16. 0

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Suzanne Triz Sex: M F Age: 8
parents: M F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 1
2. 0	10. 1
3. 1	11. 2
4. 0	12. 1
5. 1	13. 0
6. 0	14. 0
7. 0	15. 0
8. 0	16. 0

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [X]

Subject: Miguel Alcala Sex: M / F Age: 9
parents: M / F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 2
2. 0	10. 2
3. 2	11. 2
4. 1	12. 0
5. 2	13. 0
6. 1	14. 1
7. 1	15. 0
8. 2	16. 1

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [X]

Subject: Jeff McCloskey Sex: M ☒ F ☐ Age: 9
parents: M ☒ F ☒

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 2	9. 2
2. 1	10. 1
3. 0	11. 2
4. 2	12. 0
5. 0	13. 0
6. 0	14. 1
7. 1	15. 0
8. 2	16. 1

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Victor P. Sex: M ☒ F ☐ Age: 8
parents: M ☒ F ☒

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 1	9. 2
2. 0	10. 2
3. 1	11. 2
4. 1	12. 2
5. 2	13. 2
6. 1	14. 1
7. 1	15. 2
8. 2	16. 1

Said "Dad" would do that better

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Lucy A. Sex: M F ☒ Age: 8
parents: M F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 2	9. 2
2. 1	10. 1
3. 1	11. 2
4. 2	12. 1
5. 2	13. 2
6. 1	14. 1
7. 1	15. 2
8. 2	16. 2

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []

Felicia Hill [✓]

Subject: Joseph R. Sex: M ☒ F ☐ Age: 8
parents: M ☐ F ☐

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 2
2. 0	10. 1
3. 1	11. 2
4. 2	12. 0
5. 2	13. 0
6. 0	14. 1
7. 0	15. 0
8. 2	16. 2

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []

Felicia Hill [✓]

Subject: Demitrius C., Sex: M F ✓ Age: 9
parents: M ✓ F ✓

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 1	9. 2
2. 1	10. 1
3. 1	11. 2
4. 2	12. 1
5. 2	13. 2
6. 1	14. 1
7. 1	15. 1
8. 2	16. 1

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Frank M. Sex: M / F Age: 9
parents: M ✓ F ✓

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

- | | |
|------|-------|
| 1. 0 | 9. 2 |
| 2. 0 | 10. 0 |
| 3. 1 | 11. 0 |
| 4. 0 | 12. 0 |
| 5. 1 | 13. 1 |
| 6. 0 | 14. 0 |
| 7. 0 | 15. 0 |
| 8. 0 | 16. 0 |

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []

Felicia Hill []

Subject: Sylvia M.

Sex: M ☐ F ☒ Age: 9

parents: M ☒ F ☒

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. ~~1~~ 1

2. 0

3. 2

4. 1

5. 0

6. 2

7. 0

8. 1

9. 1

10. 0

11. 0

12. 1

13. 1

14. 2

15. 2

16. 2

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [X]

Subject: Adrian R. Sex: M ☒ F ☐ Age: 7
parents: M ☐ F ☒ grandfather

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 2	9. 2
2. 1	10. 1
3. 2	11. 2
4. 2	12. 1
5. 1	13. 2
6. 2	14. 1
7. 1	15. 2
8. 2	16. 1

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []

Felicia Hill [✓]

Subject: Michael P.
parents: M ✓ F ✓

Sex: M ✓ F

Age: 9

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 2
2. 0	10. 1
3. 1	11. 2
4. 2	12. 1
5. 0	13. 2
6. 0	14. 1
7. 1	15. 0
8. 2	16. 2

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Brandon C. Sex: M ✓ F Age: 9
parents: M ✓ F ✓

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 1 1	9. 2
2. 2	10. 1
3. 2	11. 2
4. 2	12. 1
5. 1	13. 0
6. 1	14. 1
7. 2	15. 2
8. 0	16. 1

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []

Felicia Hill [✓]

Subject: Winsla H.

Sex: M F ✓

Age: 9

parents: M ✓ F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 2

2. 1

3. 1

4. 0

5. 1

6. 2

7. 0

8. 2

9. 2

10. 1

11. 2

12. 0

13. 2

14. 1

15. 0

16. 1

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []

Felicia Hill [✓]

Subject: Eddie P.

Sex: M ☒ F ☐

Age: 9

parents: M ☒ F ☒

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 2
2. 1	10. 0
3. 1	11. 2
4. 0	12. 0
5. 2	13. 2
6. 1	14. 1
7. 0	15. 0
8. 2	16. 2

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill []

Subject: Beatriz M. Sex: M F Age: 8
parents: M F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 1	9. 2
2. 2	10. 1
3. 1	11. 2
4. 2	12. 1
5. 2	13. 2
6. 0	14. 1
7. 1	15. 2
8. 2	16. 2

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos

Felicia Hill

[]

[✓]

Subject:

Julie S.

Sex: M

F

Age:

8

parents: M

F

Flea:

Give simple description.

Ask to identify this description.

Joe:

Give labels.

ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 2

9. 2

2. 0

10. 1

3. 1

11. 2

4. 0

12. 0

5. 0

13. 2

6. 0

14. 1

7. 1

15. 0

8. 0

16. 2

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [X]

Subject: Eric M. Sex: M ☒ F ☐ Age: 8
parents: M ☒ F ☒

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 2

9. 2

2. 0

10. 0

3. 1

11. 2

4. 0

12. 0

5. 1

13. 0

6. 1

14. 1

7. 0

15. 1

8. 2

16. 1

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Damon L. Sex: M ☒ F ☐ Age: 8 1/2
parents: M ☒ F ☒ *skt*

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 2

2. 1

3. 1

4. 2

5. 2

6. 1

7. 1

8. 1

9. 2 definitely!

10. 1

11. 2

12. 1

13. 2

14. 1

15. 2

16. 2

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Sarah M. Sex: M F ✓ Age: 9
parents: M F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 2
2. 0	10. 1
3. 1	11. 2
4. 0	12. 0
5. 0	13. 0
6. 0	14. 1
7. 1	15. 0
8. 0	16. 0

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Juanita P. Sex: M F Age: 9
parents: M F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 2
2. 1	10. 0
3. 0	11. 2
4. 0	12. 0
5. 2	13. 2
6. 0	14. 1
7. 0	15. 0
8. 2	16. 0

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Michael C. Sex: M ☒ F ☐ Age: 9
parents: M ☒ F ☒

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 2
2. 1	10. 2
3. 2	11. 2
4. 0	12. 0
5. 0	13. 2
6. 0	14. 1
7. 0	15. 2
8. 2	16. 1

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [x]

Subject: Miguel M. Sex: M ☒ F ☐ Age: 8
parents: M ☒ F ☐

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a _____? M/F ?

Both = 0 Female = 1 Male = 2

1. 0

9. 2

2. 0

10. 0

3. 1

11. 2

4. 0

12. 0

5. 0

13. 0

6. 1

14. 0

7. 0

15. 1

8. 2

16. 0

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []

Felicia Hill [✓]

Subject: Anna A. Sex: M F ✓ Age: 9
parents: M ✓ F ✓

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

- | | |
|------|-------|
| 1. 0 | 9. 0 |
| 2. 0 | 10. 0 |
| 3. 0 | 11. 0 |
| 4. 0 | 12. 0 |
| 5. 0 | 13. 0 |
| 6. 0 | 14. 0 |
| 7. 0 | 15. 0 |
| 8. 0 | 16. 0 |

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [x]

Subject: Sally A. Sex: M F Age: 10
parents: M F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 0	9. 2
2. 0	10. 0
3. 1	11. 2
4. 0	12. 0
5. 1	13. 2
6. 0	14. 1
7. 0	15. 0
8. 2	16. 1

Middle Childhood Development Research Project
"Sex-Typed Occupations"

Testers:

Joe Bustillos []
Felicia Hill [✓]

Subject: Vannessa R. Sex: M F ✓ Age: 8
parents: M F

Flea: Give simple description.
Ask to identify this description.

Joe: Give labels.
ask, "Do you know anyone who is a ? M/F ?

Both = 0 Female = 1 Male = 2

1. 2	9. 0
2. 0	10. 0
3. 1	11. 0
4. 0	12. 0
5. 1	13. 0
6. 1	14. 0
7. 1	15. 0
8. 0	16. 0

1) Cann & Getty's top 5 sex stereotyped occupations:

1. Police officer
2. Truck driver
3. Lawyer
4. Mechanic
5. Nurse

Flea & Joe's top 5 sex stereotyped occupations:

- *1. Truck driver-18% less stereotyped
- *2. Mechanic-8% less
3. Secretary-3.2% more
4. Model-10% less
- *5. Nurse-0.5% less

Disagreement with Cann & Getty's results:

1. Police officer-53.5% vote for both sex, and 61% decrease in male stereotype compared to C&G.
2. Lawyer-41% decrease in male stereotype compared to C&G.

Sex stereotyped occupations in F&J's results:

- CH
1. Truck driver-18% decrease from C&G
 2. Mechanic-8% decrease compared to C&G
 - *3. Secretary-3.2% vote for male
 - *4. Model-10% worse than C&G
 - CH-5. Nurse

Liberalization in results:

- CH
1. Police officer
 2. Boss-45% decrease for male vote compared to C&G
 3. Principal-39% decrease for male vote, and 50% vote for both sex
 4. Doctor-24.% decrease for male vote, with a vote of 64.2% for both sex
 5. Banker-71.4% vote for both sex! 15.8% decrease in in male vote compared to C&G
 6. Teacher-10% increase for male vote and 71.4% vote for both sex

hypothesis — not supported
only 3, ~~teacher~~, model & Boss became more
liberal in description.

diff. w/ lab 1, lab 2, lab 3
8 out of 16 remained relatively the same
5 worse when described
3 got better when describe
~~NOT supported~~

1) support
3 occupations in label were less stereotyped
~~more~~ barely
description is a big less stereotyped

1) 8 out of 14 - YES 2 disconnexd ~~lawyer & dancer~~
w/ both categories

4) 8 went up liberalization

~~4 more~~

1 same

x we had both category



Sexism and
stereotype psych

HAND BOOK FOR ACHIEVING SEX EQUITY THROUGH

LC 213.2 . H36 1985

UNLEARNING THE LIE; SEX IN SCHOOL

HQ 57.5 . A3 H37 1974

IF YOU WANT ~~THE PLEASURE OF DOING~~
DO IT
JA 88.66 M28

Children, television & sex-role stereotyping

HQ 784 . t4 W488 (DUE)

GIRL, BOY OR PERSON [SOUND RECORDING]: BEYOND
SEX DIFFERENCES

INSTR. MEDIA IMK-494

SUGAR & SPICE IS NOT THE ANSWER

HANDBOOK

CURRICULUM LBI 21.5.25 V47 1979

BUILDING GENDER FAIRNESS IN SCHOOLS

LC 212.82 . 575 1988 (DUE)

~~GENDER~~

ROLE: YOUR OWN: HANDBOOK

CURRICULUM PE 1111 L87 R6

conclusions

mechanic
truck driver
& nurse are } remained extremely
stereotyped in past

overall, kids are still categorizing jobs
in female or male.

suggestions: A follow up investigation is needed
to be done ~~in the~~ ^{with the} middle class
children. Shepard & Hess is discounted
due to being conducted in 1975

Bustillos & Hill --- Sex-Typed Occupations

Middle Childhood Development Research Project: THE DATA
 "Sex-Typed Occupations"

THE PERCENTAGES
displayed by subject gender

THE MALES:

	LABELS			DESCRP		
answers:	both 0	female 1	male 2	both 0	female 1	male 2
Truck Driver	16.6	13.3	80	6.6	0	93.3
Police Officer	53.3	6.6	40	53.3	13.3	33.3
Doctor	66.6	0	33.3	33.3	26.6	40
Nurse	6.6	86.6	6.6	20	80	0
Cook	53.3	26.6	20	26.6	46.6	26.6
Cashier	53.3	20	26.6	46.6	46.6	6.6
Librarian	60	33.3	6.6	53.3	40	6.6
Teacher	60	13.3	26.6	60	33.3	6.6
Secretary	33.3	46.6	20	6.6	60	33.3
Principal	60	0	40	46.6	6.6	46.6
Banker	66.6	13.3	20	53.3	13.3	33.3
Boss	46.6	0	53.3	3.3	26.6	40
Lawyer	53.3	6.6	40	13.3	6.6	80
Mechanic	0	0	100	0	0	100
Dancer	53.3	40	6.6	46.6	46.6	6.6
Model	13.3	73.3	13.3	33.3	33.3	33.3

yes!

57 of 44
TI DOCUMENT TITLE: Age patterns in the development of children's gender-role stereotypes.
AU AUTHOR(S): Albert, -Alexa-A.; Porter, -Judith-R.
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Rhode Island
JN JOURNAL NAME: Sex-Roles; 1983 Jan Vol 9(1) 59-67
CO CODEN: SROLDH
IS ISSN: 03600025
LA LANGUAGE: English
PY PUBLICATION YEAR: 1983
AB ABSTRACT: Examined the effect of the positive-negative quality of a gender-role stereotype on the age at which very young children are willing to associate the behavior with a member of a particular sex. Ss were 209 female and 199 male 4-yr-olds, 292 female and 285 male 5-yr-olds, and 177 female and 130 male 6-yr-olds. Ss' gender-role stereotypes were assessed during a structured doll-play session. Results indicate that, in comparison to 5- and 6-yr-olds, 4-yr-olds were reluctant to associate positive gender-role stereotypes with opposite-sex figures and were also unwilling to accept negative stereotypes as characteristic of their own sex. A majority of the Ss associated with their own sex the gender-role stereotypes that are highly valued in the preschool and the school environment. (21 ref) (PsycLIT Database Copyright 1983 American Psychological Assn, all rights reserved)
KP KEY PHRASE: positive vs negative gender role stereotypes & age; willingness to associate stereotypes with opposite vs own sex; 4 vs 5 vs 6 yr olds
DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; AGE-DIFFERENCES; STEREOTYPED-BEHAVIOR; PRESCHOOL-AGE-CHILDREN; SCHOOL-AGE-CHILDREN
CC CLASSIFICATION CODE(S): 2840
PD POPULATION: Human
AG AGE GROUP: Child
UD UPDATE CODE: 8312
AN PSYC ABS. VOL. AND ABS. NO.: 70-12462
JC JOURNAL CODE: 2055

1-67
59
8

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HAI 54

1 of 44

TI DOCUMENT TITLE: Traditionality of children's interests as related to their parents' gender stereotypes and traditionality of occupations.

AU AUTHOR(S): Barak, -Azy; Feldman, -Shoshana; Noy, -Ayelet

IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Tel-Aviv U, Ramat-Aviv, Israel

JN JOURNAL NAME: Sex-Roles; 1991 Apr Vol 24(7-8) 511-524

IS ISSN: 03600025

LA LANGUAGE: English

PY PUBLICATION YEAR: 1991

HQ1.34 PER

AB ABSTRACT: Examined whether parents' gender stereotypes, maternal employment status, and the traditionality of parents' occupations were associated with the traditionality of 113 preschool children's vocational interests. Traditionality of children's interests was examined using an instrument developed for the study. 113 mothers and 106 fathers were administered an attitudes toward women scale, and traditionality of their occupations was assessed. Only the traditionality of the mothers' occupations significantly correlated with the traditionality of the interests of both boys and girls. Other variables tested did not show such relationships. Results are discussed in terms of the function of the role model in gender identity development and vocational schema modification. (PsycLIT Database Copyright 1991 American Psychological Assn, all rights reserved)

KP KEY PHRASE: parents' sex stereotype attitudes & traditionality of occupation & maternal employment status; traditionality of vocational interests; 5.5-6.5 yr olds & their parents

DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; PARENTAL-OCCUPATION; EMPLOYMENT-STATUS; OCCUPATIONAL-INTERESTS; PRESCHOOL-AGE-CHILDREN; SCHOOL-AGE-CHILDREN; PARENTAL-ATTITUDES; CHILDHOOD-; ADULTHOOD-

CC CLASSIFICATION CODE(S): 2840

PO POPULATION: Human

AG AGE GROUP: Child; Adult

UD UPDATE CODE: 9111

AN PSYC ABS. VOL. AND ABS. NO.: 78-30084

JC JOURNAL CODE: 2055

OK

yes!

31 of 44

TI DOCUMENT TITLE: Children's sextyped views of traditional occupational roles.
AU AUTHOR(S): Barnhart, Ruth-S.
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Iowa State U, Coll of Education, Ames
JN JOURNAL NAME: School-Counselor; 1983 Nov Vol 31(2) 167-170
CO CODEN: SCCODV
IS ISSN: 00366536
LA LANGUAGE: English
PY PUBLICATION YEAR: 1983
AB ABSTRACT: Administered an occupational role stereotype scale to 150 girls and 150 boys, divided evenly among 6-, 8-, and 10-yr-old age groups. Ss rated pictures of various occupational settings as appropriate for male and/or female workers. Findings indicate a high degree of sex-typing, and most occupations were perceived as the role of one sex or the other. Implications for career counseling are discussed. (10 ref) (PsycLIT Database Copyright 1984 American Psychological Assn, all rights reserved)
KP KEY PHRASE: sex stereotyped judgments of traditional occupational roles; 6 & 8 & 10 yr olds; implications for career counseling
DE DESCRIPTORS: STEREOTYPED-ATTITUDES; SEX-ROLE-ATTITUDES; OCCUPATIONAL-ATTITUDES; OCCUPATIONAL-GUIDANCE; CHILDHOOD-; SCHOOL-AGE-CHILDREN
CC CLASSIFICATION CODE(S): 2840
PO POPULATION: Human
AG AGE GROUP: Child
UD UPDATE CODE: 8408
AN PSYC ABS. VOL. AND ABS. NO.: 71-20167
JC JOURNAL CODE: 1738

LB1027.5.S28
micro "peri"

yes

36 of 44

TI DOCUMENT TITLE: Children's causal attributions for performance on sex-stereotypic tasks.
AU AUTHOR(S): Bond, -Lynne-A.; Deming, -Sara
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Vermont, Burlington

JN JOURNAL NAME: Sex-Roles; 1982 Dec Vol 8(12) 1197-1208

CO CODEN: SROLDH

IS ISSN: 03600025

LA LANGUAGE: English

PY PUBLICATION YEAR: 1982

AB ABSTRACT: In 2 experiments, 109 3rd, 111 5th, and 110 11th graders attributed males' and females' successes and failures on sex-stereotypic tasks to task difficulty, effort, luck, or skill.

Males and females responded similarly within and across age. Attributions for successes varied with congruity of actor and task stereotype; "effort" was emphasized for sex-inconsistent relative to sex-consistent performance. However, overriding sex-of-actor biases emerged in explanations for failures, suggesting that failures were treated as anticipated outcomes for females. Results are considered in terms of maintenance of sex-role stereotypes beginning early in childhood. (28 ref)
(PsycLIT Database Copyright 1984 American Psychological Assn, all rights reserved)

KP KEY PHRASE: causal attribution for performance on sex-stereotyped tasks; 3rd vs 5th vs 11th graders

DE DESCRIPTORS: SEX-ROLES; STEREOTYPED-ATTITUDES; ATTRIBUTION-; ADOLESCENCE-; CHILDHOOD-; ACHIEVEMENT-; FAILURE-; SCHOOL-AGE-CHILDREN

CC CLASSIFICATION CODE(S): 2840

PO POPULATION: Human

AG AGE GROUP: Child; Adolescent

UD UPDATE CODE: 8401

AN PSYC ABS. VOL. AND ABS. NO.: 71-01048

JC JOURNAL CODE: 2055

1208
1197
11

HQ1 .84

yes!

26 of 44

TI DOCUMENT TITLE: Sex stereotype impacts on competence ratings by children.

AU AUTHOR(S): Cann.-Arnie; Garnett.-Aletnea-K.

IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U North Carolina, Charlotte

JN JOURNAL NAME: Sex-Roles; 1984 Aug Vol 11(3-4) 333-343

CO CODEN: SROLDH

IS ISSN: 03600025

LA LANGUAGE: English

FY PUBLICATION YEAR: 1984

AB ABSTRACT: Studied 36 females and 36 males, aged 67-114 mo, who provided ratings of perceived relative competence of male and female stimulus persons who were depicted as engaging in sex-stereotyped professions. Ss were divided into 3 age levels: 61-78 mo, 79-95 mo, and 96-114 mo, with 12 males and 12 females in each category. 50 Ss were White and 22 were Black. Ratings for each of 8 occupations were made by allocating 10 plastic chips between the 2 stimulus persons. After the last trial, Ss also were asked to recall the occupation last paired with a particular stimulus person. Results show that Ss at each of the 3 age levels rated as more competent the individual whose sex was consistent with the stereotype for the occupational group presented; the degree of differentiation increased with age. Recall was influenced by the consistency of the stimulus person/occupation pairing with the sex stereotype but was not related to ratings of competence. (31 ref) (PsycLIT Database Copyright 1985 American Psychological Assn, all rights reserved)

KP KEY PHRASE: sexual stereotyping; ratings of competence of individuals whose sex was consistent vs inconsistent with gender occupational stereotype; 61-78 vs 79-95 vs 96-114 mo olds

DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; COMPETENCE-; OCCUPATIONS-; SOCIAL-PERCEPTION; CHILDHOOD-; AGE-DIFFERENCES; PRESCHOOL-AGE-CHILDREN; SCHOOL-AGE-CHILDREN

CC CLASSIFICATION CODE(S): 2840

PO POPULATION: Human

AG AGE GROUP: Child

UD UPDATE CODE: 8507

AN PSYC ABS. VOL. AND ABS. NO.: 72-17023

JC JOURNAL CODE: 2055

HLI .84 per

~~yes~~

yes

Children's Perceptions of Occupational Sex Stereotypes¹

Linda D. Gettys and Arnie Cann²
University of North Carolina—Charlotte

Female and male children ranging in age from 2½ to 8 years were asked to indicate for each of 10 occupations whether a male or a female adult would be most likely to engage in the occupation. Five traditionally male and five traditionally female occupations were presented in random orders. The results indicated that the children at each age level made a significant distinction between the two occupational groupings, with the extent of the distinction increasing with age level. There were no significant effects involving the sex of the children. The results were interpreted as indicating the learning of adult stereotypes concerning the sex appropriateness of occupations by children as young as 2½ years old. The potential implications of this sex stereotype for actual career decisions and aspirations were discussed.

Despite recent progress in challenging the barriers to entry into previously male-dominated professions, women still face many significant obstacles in achieving success in nontraditional fields (O'Leary, 1974). One underlying basis for these obstacles seems apparent in the evidence that continues to accumulate suggesting that certain occupations are perceived as appropriate only for males or for females. Panek, Rush, and Greenawalt (1977) presented college undergraduates with a list of 25 occupations and asked them to judge whether the occupation was male, female, or neutral. They found that 15 of the 25 were associated with either males (8) or with females (7), rather than neutral. The distinctions revealed were in line with traditional stereotypes concerning professions (e.g.,

¹The authors would like to express their appreciation to the principal, M. Brady Thomas, and the teachers at Hickory Grove Elementary School for their help during the study. The order of authorship was randomly determined.

²All correspondence should be sent to the second author at the Department of Psychology, University of North Carolina—Charlotte, Charlotte, North Carolina 28223.

Children's Perceptions of Relative Competence in Sex-Typed Occupations

Arnie Cann¹ and Jeanne M. Haight
University of North Carolina--Charlotte

Children ranging in age from 5½ to 9 years old selected either a male or a female doll in response to questions about who would be "better" at an occupation. The occupations were selected so that half were female and half were male sex-typed occupations. The responses indicated that children have clear sex-typed expectations concerning occupational competence. While the differences between the "female" and "male" occupations were significant at each age level, the interaction revealed an increasing adherence to the stereotypes with increasing age. A sex of child main effect was produced by the tendency of female children to select the female doll more often than did male children. The results are interpreted as demonstrating that children's perceptions of these occupations reflect an evaluative bias and not simply a recognition of adult stereotypes or actual rates of employment in the positions.

Children's commonly expressed occupational aspirations reflect consistent sex differences. Overlap between the occupations desired by girls and boys is nearly nonexistent (e.g., Kriedberg, Butcher & White, 1970; Smith, 1971a; 1971b; Papalia & Tennent, 1975). These sex differences in children's occupational choices correspond quite closely to the occupational sex stereotypes identified in research with adults (Albrecht, Bahr, & Chadwick, 1977; Ianeck, Rush, & Greenawalt, 1977; Shinar, 1975). One obvious interpretation suggested by these data is that children have incorporated adult occupational sex stereotypes into their early career speculations. An alternative explanation is that the

¹ Correspondence should be sent to the first author at the Department of Psychology, University of North Carolina--Charlotte, Charlotte, North Carolina 28223. The authors would like to thank M. Brady Thomas, Principal, and the teachers at Hickory Grove Elementary School for their cooperation during the research project.

yes! got

29 of 44

TI DOCUMENT TITLE: Sex stereotype effects in children's picture recognition.
AU AUTHOR(S): Cann,-Arnie; Newbern,-Sara-R.
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U North Carolina, Charlotte
JN JOURNAL NAME: Child-Development; 1984 Jun Vol 55(3) 1085-1090
CO CODEN: CHDEAW
IS ISSN: 00093920
LA LANGUAGE: English
PY PUBLICATION YEAR: 1984
AB ABSTRACT: 20 male and 20 female younger children (aged 63-77 mo) and 20 male and 20 female older children (aged 84-99 mo) performed a 2-option forced-choice picture recognition task in which the 2 pictures presented varied the sex of the person performing an activity. Ss were also selected on the basis of a pretest to create 2 levels of adherence to sex stereotypes. During acquisition, Ss had been presented with pictures in which the match between the activity and the performer was consistent with or inconsistent with sex stereotypes. Additional pictures involving stereotype neutral activities also were presented during acquisition and recognition. Half of the Ss received verbal labels along with the pictures. The labels were expected to facilitate recognition when the picture was consistent with the stereotype but inhibit performance when the portrayal was inconsistent, since the labels described sex-stereotyped activities. Results indicate that the labels did inhibit performance on the sex-stereotype-inconsistent pictures but produced no increases for stereotype-consistent pictures. An interaction involving the sex of the person pictured, sex of S, and sex-stereotype consistency revealed that males responded differentially as a function of the sex of the person pictured, while females were unaffected by this variation. Overall, results support a gender schema view of sex-typing in children. (18 ref) (PsycLIT Database Copyright 1984 American Psychological Assn, all rights reserved)
KP KEY PHRASE: level of adherence to sex stereotypes & pictures with vs without labels; recognition; male vs female 63-77 vs 84-99 mo olds
DE DESCRIPTORS: SEX-ROLE-ATTITUDES; PICTORIAL-STIMULI; RECOGNITION-LEARNING; HUMAN-SEX-DIFFERENCES; STEREOTYPED-ATTITUDES; CHILDHOOD-; SCHOOL-AGE-CHILDREN; PRESCHOOL-AGE-CHILDREN
CC CLASSIFICATION CODE(S): 2800
PO POPULATION: Human
AG AGE GROUP: Child
UD UPDATE CODE: 8411
AN PSYC ABS. VOL. AND ABS. NO.: 71-28187
JC JOURNAL CODE: 1167

Peri HQ 750.A1 C45
microfilm " Peri

TI DOCUMENT TITLE: Cognitive aspects of early sex-role development: The influence of gender schemas on preschoolers' memories and preferences for sex-typed toys and activities.
AU AUTHOR(S): Carter, -D.-Bruce; Levy, -Gary-D.
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Syracuse U, NY, US
JN JOURNAL NAME: Child-Development; 1988 Jun Vol 59(3) 782-792
CO CODEN: CHDEAW
IS ISSN: 00093920
LA LANGUAGE: English
PY PUBLICATION YEAR: 1988
AB ABSTRACT: Interviewed 60 33-68 mo old children to assess relations among sex-stereotype knowledge, stereotype flexibility, gender constancy, sex-typed toy preferences, gender schematization, and recognition memory for gender-relevant illustrations. Age was positively associated with recognition memory for stereotype-consistent and inconsistent activities and negatively associated with simple recognition errors. Gender schematization was negatively associated with memory for stereotype-inconsistent activities and positively associated with gender transformational memory errors. Boys' toy preferences were more stereotype consistent and, for all Ss, preferences for sex-appropriate toys were positively associated with age and gender schematization. Stereotype knowledge, stereotype flexibility, and gender constancy did not reliably predict memories or preferences. (PsycLIT Database Copyright 1988 American Psychological Assn, all rights reserved)
KP KEY PHRASE: gender schemas; memory & preferences for sex typed toys & activities; 33-68 mo olds
DE DESCRIPTORS: TOY-SELECTION; SCHEMA-;
PSYCHOSEXUAL-DEVELOPMENT; SEX-ROLES; MEMORY-;
PRESCHOOL-AGE-CHILDREN; CHILDHOOD-PLAY-BEHAVIOR; CHILDHOOD-
CC CLASSIFICATION CODE(S): 2840
PO POPULATION: Human
AG AGE GROUP: Child
UD UPDATE CODE: 8811
AN PSYC ABS. VOL. AND ABS. NO.: 75-32353
JC JOURNAL CODE: 1167

H0750.A1 C45 P64 (micro)

OK

yes!
44 of 44

TI DOCUMENT TITLE: Sex roles as social conventions: The development of children's conceptions of sex-role stereotypes.
AU AUTHOR(S): Carter, -D.-Bruce; Patterson, -Charlotte-J.
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Syracuse U
JN JOURNAL NAME: Developmental-Psychology; 1982 Nov Vol 18(6) 812-824

CO CODEN: DEVPA9

IS ISSN: 00121649

LA LANGUAGE: English

PY PUBLICATION YEAR: 1982

AB ABSTRACT: 97 kindergartners and 2nd, 4th, 6th, and 8th graders were interviewed about their conceptions of 4 rule topics: sex-role stereotypes of toys, sex-role stereotypes of adult occupations, conventional table manners, and a natural law. Results indicate that Ss' knowledge of sex-role stereotypes and beliefs in the flexibility and cultural relativity of both sex-role stereotypes and a social convention significantly increased with age. Ss' beliefs in the flexibility and cultural relativity of a natural law decreased with age. Changes in conceptions of sex-role stereotype flexibility occurred concurrently with changes in social-conventional flexibility but were unrelated to changes in conceptions of the natural law. Findings suggest that sex stereotypes and social conventions are different aspects of the single conceptual domain of social convention. (27 ref) (PsycLIT Database Copyright 1983 American Psychological Assn, all rights reserved)

KP KEY PHRASE: conceptions of sex role stereotypes of toys & adult occupations & table manners & natural law; kindergartners vs 2nd vs 4th vs 6th vs 8th graders

DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; AGE-DIFFERENCES; PRESCHOOL-AGE-CHILDREN; SCHOOL-AGE-CHILDREN; ADOLESCENTS-

CC CLASSIFICATION CODE(S): 2840

PO POPULATION: Human

AG AGE GROUP: Child; Adolescent

UD UPDATE CODE: 8302

AN PSYC ABS. VOL. AND ABS. NO.: 69-03188

JC JOURNAL CODE: 1208

BF699.D46
micro " " peri

TI DOCUMENT TITLE: Evaluation of a young child's behavior:
Effects of attractiveness and sex.

AU AUTHOR(S): Horvath,-T.; MacDonald,-E.-L.

IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Windsor, ON,
Canada

JN JOURNAL NAME: Perceptual-and-Motor-Skills; 1989 Dec Vol 69(3,
Pt 1) 1051-1056

CO CODEN: PMOSAZ

IS ISSN: 00315125

LA LANGUAGE: English

PY PUBLICATION YEAR: 1989

AB ABSTRACT: Facial drawings of 2- or 4-yr-old boys or girls
differing in attractiveness were attached to an episode that
depicted a mild misbehavior (insensitivity to a household pet)
and were rated by 338 female and 107 male undergraduates. Neither
the attribution of responsibility for the behavior nor the choice
of an indulgent vs punitive response was associated with the
child's attractiveness, sex, or age. Data for 4-yr-olds do,
however, suggest a main effect for sex such that attribution of
responsibility to the child was greater for the girl than for the
boy stimulus; this may reflect a cultural stereotype. The halo
effects of attractiveness discrimination may not be fully
operative at these ages. (PsycLIT Database Copyright 1990
American Psychological Assn, all rights reserved)

KP KEY PHRASE: physical attractiveness of male vs female 2-4 yr
old target; attribution of responsibility & choice of punishment
for misbehavior; college students

DE DESCRIPTORS: PHYSICAL-ATTRACTIVENESS; ATTRIBUTION-;
HUMAN-SEX-DIFFERENCES; PUNISHMENT-; RESPONSIBILITY-; CHILDREN-;
ADULTHOOD-

CC CLASSIFICATION CODE(S): 3040

PO POPULATION: Human

AG AGE GROUP: Child; Adult

UD UPDATE CODE: 9007

AN PSYC ABS. VOL. AND ABS. NO.: 77-17065

JC JOURNAL CODE: 1576

BF311.P36 P24 (v.10)

2 of 44

TI DOCUMENT TITLE: The development of gender stereotype components.

AU AUTHOR(S): Martin,-Carol-L.; Wood,-Carolyn-H.; Little,-Jane-K.

IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Arizona State U, Tempe, US

JN JOURNAL NAME: Child-Development; 1990 Dec Vol 61(6) 1891-1904

CO CODEN: CHDEAW

IS ISSN: 00093920

LA LANGUAGE: English

PY PUBLICATION YEAR: 1990

AB ABSTRACT: In Study 1, 56 children (aged 38-73 mo) were told about target children who liked either a masculine or feminine toy, and then children predicted the targets' interests in other toys. In Study 2, 76 children (aged 6-10 yrs) were told about target children with a masculine or feminine characteristic from 1 of 4 categories (appearance, personality, occupation, and toys), and then they predicted the likelihood of targets having other masculine and feminine characteristics from the same and from different categories as the cue. Two developmental trends emerged: (1) children first learned associations among characteristics relevant to their own sex and, later, for the other sex and (2) older children's stereotypic judgments were more extreme than those of younger children. (PsycLIT Database Copyright 1991 American Psychological Assn, all rights reserved)

KP KEY PHRASE: prediction of target child's interest in or having other masculine or feminine appearance or personality or occupation or toys from same vs different cue categories; 38-73 mo & 6-10 yr olds-

DE DESCRIPTORS: MASCULINITY-; FEMININITY-; SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; PRESCHOOL-AGE-CHILDREN;

SCHOOL-AGE-CHILDREN; CHILDHOOD-

CC CLASSIFICATION CODE(S): 2840

PO POPULATION: Human

AG AGE GROUP: Child

UD UPDATE CODE: 9108

AN PSYC ABS. VOL. AND ABS. NO.: 78-21025

JC JOURNAL CODE: 1167

HQ750.A1 C45 microfilm - per

07C

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Knowledge of Sex-Role Stereotypes in Children Aged 3 to 5¹

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When do children begin acquiring adult sex-role stereotypes? This study examined the sex-stereotypic knowledge of four groups of young children: 3.0-3.5, 3.5-4.0, 4.0-4.5, and 4.5-5.0 years old. To assess the development of their knowledge, the same children were retested six months later. Evidence of sex-stereotyping appeared at 3.5 years and increased both across the different age groups and within the same children as they aged. The children's knowledge encompassed both feminine and masculine traits, and was related to general intellectual development. These results are interpreted as supporting cognitive-developmental theories that children learn sex-role stereotypes as structural rules for organizing and understanding behaviors present in their social environment.

The question of when children acquire knowledge of adult's sex-role stereotypes has grown in theoretical importance recently. Most notably, this is due to the centrality of this issue in verifying one of the more unique aspects of cognitive theories of sex-role development (Kohlberg, 1966) — the hypothesis that sex-role cognitions begin to be learned prior to gender constancy and the exhibition of most gender-typed behavior. This phenomenon is central to Kohlberg's (1966) rejection of psychoanalytic and social learning approaches. Lewis and Weinraub (1979) have recently noted new evidence that many of Kohlberg's age estimates may be inaccurate, owing to methodological artifacts. As a result, there is a continuing need for age-specific data concerning the acquisition of sex-role cognitions.

¹ Thanks are due to Diane Bulow, Grace Horsman, Barbara Kutner, Joan Strutts, and the other teachers for aiding our access to children enrolled in their centers. Moira Davidson, Beth Kaplan, Keith Miller, Suzanna Nam, Dan Birecree, Sara Corse, Jim Gilbert, Jean Merenda, Anna Steiner, and Steve Tannenbaum served graciously as testers.

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and black subjects. While these results indicate that the interrelationships between the two groups of VPI scales are similar for black and white college students, further investigation of the appropriateness of Holland's theory for a broader range of persons is desirable.

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Attitudes in Four Age Groups Toward Sex Role Division in Adult Occupations and Activities¹

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Kindergarten, eighth grade, college, and adult subjects were presented with a list of 43 adult occupations. They indicated for each whether it should be performed by a male, female, or either. Liberality, defined in terms of the number of "either" responses, increased markedly from kindergarten to eighth grade through college and then showed a moderate decrease in the adult sample. In each age group except kindergarten there was a significant sex difference with females being more liberal. Analysis of individual roles showed that both sexes were willing to let women into prestige occupations but females were more willing than males to have household and child-caring tasks performed by both sexes.

The impact of the women's liberation movement is readily apparent in such diverse cultural indices as congressional passage of the equal rights amendment, shifting content of material in popular magazines, newspaper accounts of court litigation of sex discrimination suits, widespread usage of the designation "Ms.," and advertisements depicting women engaged in what have been considered traditional male pursuits.

Fundamental change in social structure, however, depends on widespread acceptance of new attitudes on the part of large segments of the general population. As the Swedish experience has shown (Liljestrom, 1970) even enthusiastic governmental and legislature endorsement of egalitarian principles does not ensure universal popular acceptance.

This study focuses on one aspect of "the new feminism"—namely attitude change toward sex role division in adult occupations. If, indeed, men and women do broaden their concepts of appropriate adult roles, there will inevitably be far-reaching changes in patterns of family living, child care, and conditions of employment. Practically, those concerned with designing career education programs or with vocational guidance at any stage of the life cycle

¹The authors wish to thank Mr. Thomas Barrresi, Elementary School Principal, Mrs. Carlson, Mrs. Parks, and the other teachers and pupils at Fredonia Central Schools for their fine cooperation.

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TI DOCUMENT TITLE: Relationship of parental education, race, and gender to sex role stereotyping in five-year-old kindergartners.

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AB ABSTRACT: Examined the relationship of parental education, race, and gender to sex-role stereotyping (using the Bardwell-Sietsema Sex Stereotype Scale) in 180 5-yr-old kindergartners divided equally by gender and by race. A significant effect for race and parental education level was noted. White Ss gave more stereotyped responses than did Black Ss, and Ss whose parents were in the middle- and high-educational levels gave more stereotyped responses than did Ss whose parents were in the low-educational level. A significant interaction was also found between educational level of parents and race. White Ss tended to give more stereotyped responses as the educational level of their parents increased; this trend was not evident for Black Ss. No significant differences in stereotyping were noted between the sexes. (PsycLIT Database Copyright 1988 American Psychological Assn, all rights reserved)

KP KEY PHRASE: parental educational level; stereotyped sex role attitudes; female vs male Black vs White 5 yr old kindergartners

DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; PARENT-EDUCATIONAL-BACKGROUND; HUMAN-SEX-DIFFERENCES; RACIAL-AND-ETHNIC-DIFFERENCES; BLACKS-; WHITES-; CHILDHOOD-; PRESCHOOL-AGE-CHILDREN

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A modification of diagnostic categories that are vaguely described may alleviate potential diagnostic sex bias. Such a modification is particularly recommended for the personality disorders, because DSM-III states that the interrater reliabilities for these categories are low (.26-.75) where, not surprisingly, antisocial personality shows the highest interrater reliability. Thus, a more objective criterion may not only alleviate sex bias but may promote interrater consistency across diagnosticians.

Because the present research is concerned with the effects of gender stereotypes, it is worth noting that the social-psychological literature on stereotyping has shown that the effect of gender information is greatly attenuated when accompanied by individuating information (Locksley, Borgida, Brekke, & Hepburn, 1980; Locksley, Hepburn, & Ortiz, 1982). The fact that the present research on gender information had a very powerful influence in the presence of highly detailed, and often counterstereotypic information, is a testimony to the power of sex stereotypes in influencing psychiatric classification.

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Relationship of Parental Education, Race, and Gender to Sex Role Stereotyping in Five-Year-Old Kindergartners

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This study examined the relationship of parental education, race, and gender to sex-role stereotyping in five-year-old kindergartners. A significant effect for race and parental education level was noted. White children gave more stereotyped responses than did black children, and children whose parents were in the middle- and high-educational levels gave more stereotyped responses than did children whose parents were in the low-educational level. A significant interaction was also found between educational level of parents and race. White children tended to give more stereotyped responses as the educational level of their parents increased; this trend was not evident for black children. No significant differences in stereotyping were noted between the sexes.

Along with the neoconservative sociopolitical climate of the United States during the past few years has come renewed concern about sexism and sex role stereotyping (SRS) in young children. Sex role acquisition is usually attributed to one of three factors: innate biological differences, cognitive-developmental level, or social influences. According to psychoanalytic theory, the child identifies with the parent of the same sex due to innate, biologically based drives; thus, sex role development is biologically determined by one's gender (Freud, 1961; Ullian, 1976). Cognitive-developmental theory asserts that sex role development is basically dependent upon general intellectual capacity and the attainment of gender constancy, i.e., understanding that one's gender remains the same even if one's physical appearance is changed

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(Kohlberg, 1966). The third explanation, which provides the conceptual framework for the present study, is derived from social learning theory. This theory proposes that environmental experiences, or social influences, play a major part in the development of sex roles (Bandura, 1969). Social learning theory logically assumes that the modeled behavior that children observe in their day-to-day experiences leads to the internalization of sex-typed behaviors. Parental educational level, which influences attitudes, beliefs, and practices, thus serves as an important variable in the development of SRS.

Although numerous researchers have examined the effects of gender and race on SRS, the results have been inconclusive. Studies conducted in the 1950s and early 1960s by Rabban (1950), Brown (1956), Hartup and Zook (1960), and Hall and Keith (1964), showed boys to be more highly stereotyped than girls. Hartley and Hardesty (1964) concluded from their study that boys are more aware of sex roles than are girls because of the rigid, culturally determined necessity for boys to avoid feminine activities. Although a few studies in the 1970s also showed boys to be more stereotyped than girls on measures of attitude (Puffer, 1976), occupational choice (Garrett, Ein, & Fremaire, 1977), and toy and game preference (Vogelson, 1979), many of the studies conducted in the late 1970s and in the 1980s showed no differences between the sexes on SRS (Bardwell & Sietsema, 1978a; Delsanter, 1983; Gettys & Cann, 1981; Isaacks, 1980; Kuhn, Nash, & Brucker, 1978; Tryon, 1980). Only a few studies have found girls to be more sex stereotyped than boys (Fein, 1975; Vener & Snyder, 1966; Vroegh, 1975).

The literature regarding the effect of ethnicity on SRS has not been conclusive, but it has appeared to offer certain general trends. While Harris and Satter (1981) found no significant racial differences in the level of SRS between Anglo and Hispanic kindergartners, many other researchers have found race differences. Isaacks (1980) reported that four-, five-, and six-year-old Hispanic children were less sex stereotyped than were their Anglo counterparts. However, the general trend of research findings has appeared to indicate that Hispanics are more sex stereotyped than are Anglos and that blacks are more sex stereotyped than are either Hispanics or Anglos (Frost, 1979; Gackebach, 1978; Gonzalez, 1982; Gump, 1975; Price-Bonham & Skeen, 1982). Unlike the present investigation, however, only two of these studies (Harris & Satter, 1981; Isaacks, 1980) dealt with young children.

The literature did reveal several investigations that used young children to examine the effects of socioeconomic status on SRS. The results appeared to be fairly evenly divided between those that showed no differences on this variable (Hartley & Hardesty, 1964; Seegmiller, 1980; Thompson, 1975) and those that found middle-class children to be more stereotyped than lower class children (Bardwell & Sietsema, 1978a; Rabban, 1950; Suter, Seegmiller, & Dunivant, 1980).

Although parents' educational level probably can be extrapolated from socioeconomic status, few investigators have dealt specifically with this variable and SRS. In one such study, Zuckerman and Sayre (1980) found that parents' education predicted responses to certain questions about sex roles among four- through eight-year-old children. The present study examined whether (a) parental educational level, (b) race, (c) gender, or (d) interactions among these variables influence SRS in five-year-old kindergartners.

METHOD

Subjects

A sample of 180 five-year-old kindergarten students was randomly selected from six public schools located in predominantly middle-class surroundings in rural northeast Texas. All the kindergartens had similar programs, and used a combination of the learning-centers approach and teacher-directed group activities.

The sample was divided equally between boys and girls, and between blacks and whites. A male group and a female group were formed, composed of each of the following categories: (a) low, middle, and high parental educational level and (b) black and white racial groups. Low parental educational level was defined as completion of the eleventh grade or below by both parents. Middle parental educational level ranged from both parents in the family having completed high school to one or both parents having a combined total of three years of college or technical school training. High parental educational level indicated that parents had completed a combined total of at least four years of college or technical school training.

Procedure

The Bardwell-Sietsema Sex Stereotype Scale (Bardwell & Sietsema, 1978b) was administered individually to all subjects. This is a dichotomous-choice picture test that assesses SRS in young children in five categories: competency, play and recreation, socio-emotional behavior, occupation, and physical appearance. The test is constructed so that subjects are presented with two pictures, side by side, in which ghost figures (Form A) or stick figures (Form B) are engaged in different activities such as putting up drapes or building a house. The examiner reads the accompanying dialogue to the child and asks him/her to point to either the girl (or women) or boy (or man). Responses are recorded and counted, yielding a numerical score that indicates the degree of SRS.

RESULTS

A $3 \times 2 \times 2$ (Educational Level of Parents \times Race \times Gender) analysis variance, fixed-effects model was used for data analysis. Higher scores indicated more SRS.

A significant main effect for parental educational level [$F(2, 168) = 77, p < .01$], was found, with children whose parents were in the middle educational level group (ELG) and in the high ELG giving more stereotyped responses than children whose parents were in the low ELG. The means were 27.80, 27.37, and 23.37, respectively. The main effect for race also was significant [$F(1, 168) = 35.91, p < .0001$], with white children ($M = 28.85$) giving more stereotyped responses than black children ($M = 22.53$). The main effect of gender was not significant.

The results of this study showed a significant interaction between education and race [$F(2, 168) = 5.81, p < .004$]. White children whose parents were in the middle ELG ($M = 26.80$) and high ELG ($M = 27.37$) gave more stereotyped responses than did children in any of the other groups. White children whose parents were in the low ELG had a mean of 23.37; black children whose parents were in the middle ELG and high ELG had means 22.90 and 22.10, respectively. No other two-way interactions were significant.

The significant interaction of Education \times Gender \times Race [$F(2, 168) = 3.95, p < .02$] indicated the following about children whose parents were in the middle ELG: white boys ($M = 27.67$) gave more stereotyped responses than did black boys ($M = 21.93$). These same white boys also gave more stereotyped responses than did the white boys whose parents were in the low ELG ($M = 22.73$). Additionally, children whose parents were in the high ELG responded as follows: white boys ($M = 28.07$) gave more stereotyped responses than did black boys ($M = 23.00$) or black girls ($M = 21.20$). These same white boys also gave more stereotyped responses than did the white boys whose parents were in the low ELG ($M = 22.73$). Furthermore, in the high ELG, white girls ($M = 26.67$) gave more stereotyped responses than did black girls ($M = 21.20$). No other three-way interactions were significant.

DISCUSSION

When parental educational level is equated with socioeconomic status, the findings of this study are in general agreement with those reported earlier that suggested that SRS is more prevalent among children from higher socioeconomic levels (Bardwell & Sietsema, 1978a; Rabban, 1950; Suter et al., 1980; Zuckerman & Sayre, 1980). This is at variance with the assumption

that children of higher educational level parents are offered greater freedom to cross sex role barriers than are children of lower educational level parents. As educational level increases, perhaps, parental behavior becomes more, rather than less, conservative as parents are presumably more aware of the effects of their modeling on their children.

The race variable proved to be significant, with white children giving more stereotyped responses than black children. Comer (1985), Hale (1982), and other black psychologists and educators have reminded us that black children grow up in a culture decidedly different from that of white children. A major part of this cultural difference involves the adaptability of black family roles, with more working women, more children cared for by older siblings, and more men assuming a share in the child-rearing responsibility (Hill, 1972; Nobles, 1974a,b). Additionally, blacks have long had to deal with, or challenge, cultural stereotypes. One might assume that these factors could lead to less rigid modeling patterns for black children, accompanied by less SRS.

No significant differences in SRS were found between boys and girls. This finding is in accord with results reported in other studies (Bardwell & Sietsema, 1978a; Delsanter, 1983; Isaacks, 1980) and is consonant with social learning theory in that children of both sexes basically receive the same family modeling.

Both two- and three-way interactions indicated that parental educational level had no influence on the SRS of black children, while white children tended to give more stereotyped responses as the educational level of their parents increased. In both black and white families with less education, perhaps, there is, of necessity, more sharing of various responsibilities such as household chores and child rearing; thus, fewer sex role stereotypes are perpetuated. This idea is in contrast to the prevalent media myth that a strict delineation of responsibility based on gender still exists within the blue-collar family. It may be that the dynamics of the white family become less egalitarian as educational level increases, while this phenomenon might not occur within black families because they are influenced less by the dominant culture's values and mores.

This study was not able to present unequivocal evidence that parental modeling serves as the basic mechanism for establishing sex role attitudes. However, it would appear that social learning theory (with its primary focus on modeling) offers a much more logical explanation for these particular findings than either psychoanalytic or cognitive-developmental theory. Other factors that may be influential in the formation of sex role attitudes in young children that also deserve investigation include prekindergarten educational experience, television viewing habits, the presence or absence of siblings, and familial religious beliefs and practices.

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Cognitive Aspects of Early Sex-Role Development: The Influence of Gender Schemas on Preschoolers' Memories and Preferences for Sex-typed Toys and Activities

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CARTER, D. BRUCE, and LEVY, GARY D. *Cognitive Aspects of Early Sex-Role Development: The Influence of Gender Schemas on Preschoolers' Memories and Preferences for Sex-typed Toys and Activities*. CHILD DEVELOPMENT, 1988, 59, 782-792. 60 33-68-month-old children were interviewed to assess relations among sex-stereotype knowledge, stereotype flexibility, gender constancy, sex-typed toy preferences, gender schematization, and recognition memory for gender-relevant illustrations. Age was positively associated with recognition memory for stereotype-consistent and inconsistent activities and negatively associated with simple recognition errors. Gender schematization was negatively associated with memory for stereotype-inconsistent activities and positively associated with gender transformational memory errors. Boys' toy preferences were more stereotype consistent and, for all children, preferences for sex-appropriate toys were positively associated with age and gender schematization. Sex-inappropriate preferences were negatively associated with gender schematization. Neither stereotype knowledge, stereotype flexibility, nor gender constancy reliably predicted memories or preferences.

Children's understanding of gender-relevant information has long been thought to be a major component of early sex-role development (see Roopnarine & Mounts, 1987). In particular, Kohlberg's (1966) cognitive developmental theory of sex-role socialization relies on roles that cognitive components, especially gender constancy, play in sex-typing. While Kohlberg (1966) maintained that gender constancy is the basis for sex-typing, the empirical evidence on these relations is mixed. Some evidence supports the notion that acquisition of gender constancy and concrete operational skills co-occur (e.g., Marcus & Overton, 1978), but little data support the notion that gender constancy is related to other sex-typing phenomena (see Huston, 1983). In contrast, substantial evidence indicates that the ability to label gender accurately (i.e., gender identity) is related to sex-stereotype knowledge and sex-typed preferences (e.g., Fagot, Leinbach, & Hagen, 1986; Kuhn, Nash, & Bruckner, 1977; Weinraub et al., 1984). Thus, despite Kohlberg's predictions, the evidence supports only the notion that gender identity, not gender constancy, is important (see Huston, 1983).

Gender schema theories (e.g., Bem, 1985; Martin & Halverson, 1981) also posit that gender is an organizing principle used to construct views of the social world, and that knowledge of one's gender is a prerequisite for development of gender schemas. Unlike cognitive developmental theory, however, gender schema theories attach no importance to gender constancy. Rather, these theories propose that children inevitably acquire normative knowledge about sex-typing, resulting in the development of schemas that form the standards against which gender schematic individuals judge their personalities and behavior (e.g., Bem, 1985; Martin & Halverson, 1987).

Martin and Halverson's (1981) gender schema theory proposes that two schemas are involved in the acquisition of gender-relevant information and the maintenance of sex-typed behavior. The first is the "in-group/out-group" schema consisting of information, such as stereotypes, necessary to classify objects and behaviors into sex-defined categories. The second, the "own-sex" schema, is a more specific version of the first, containing

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detailed information about the specific characteristics of the person and means of acting on this information. The in-group/out-group schema is thought to provide a knowledge base for self-evaluations, while the own-sex system is more affective owing to its tie to self-perception (Bem, 1981; Markus, Crane, Bernstein, & Siladi, 1982). Because of its preference and affective components, the own-sex schema theoretically should be more predictive of sex-typing and gender-relevant processing than the in-group/out-group schema (cf. Martin & Halverson, 1981).

Specific predictions can be made about the effects of gender schemas on the processing of gender-relevant information. First, gender schemas should enhance children's abilities to remember stereotype-consistent information while interfering with memories for stereotype-inconsistent information. In support of this prediction, data from several studies indicate that gender schematization among young children is associated with accuracy in stereotype-consistent memories and inaccuracy in stereotype-inconsistent memories (e.g., Liben & Signorella, 1980; Martin & Halverson, 1983; Signorella & Liben, 1984). Second, gender schematic children should make certain kinds of errors when processing stereotype-inconsistent information. Specifically, they should transform the gender of stereotype-inconsistent stimuli in order to render the stimuli schema-consistent. The evidence supporting the second prediction is mixed. While many children exhibit memory distortions for pictures of persons engaged in stereotype-inconsistent activities (e.g., Cann & Newbern, 1984; Martin & Halverson, 1983; Signorella & Liben, 1984), no study to date has found consistent relations between gender schematization and distortions in memory.

Valid measurement of children's gender schemas is, of course, a basic requirement of research on these issues. The most frequently used index of gender schematization has been sex-stereotype flexibility (e.g., Liben & Signorella, 1980). Flexibility measures, however, focus on the content of the in-group/out-group schema, in contradiction to the notion that schematization would be best exemplified by differences in gender-relevant information processing (Bem, 1985; Martin & Halverson, 1981). This may account for the absence of relations between distortions in memory and gender schematization.

A more direct assessment of gender schematization might focus on ways the material presented influences the processing of gender-relevant information. Theoretically,

gender schematic and aschematic persons should respond to gender-relevant choices differently. For example, if an individual were required to choose between stimuli differing in sex-typing (i.e., masculine and feminine items), the presence of a strong gender schema should facilitate the ability to choose; invoking the gender schema would provide the information necessary for the choice. In contrast, when confronted with similarly sex-typed stimuli (e.g., two feminine items), a strong gender schema actually should inhibit selection since the information applies equally to both potential choices. Thus, degree of own-sex gender schematization might be best measured by the extent to which gender relevance influences an individual's abilities to choose between stimuli. Gender schematization, in turn, should be a good predictor of other gender-relevant phenomena. These assumptions form the basis for the measure of gender schematization we employed.

Finally, it is theoretically important to explore relations among gender schemas and sex-typing phenomena in young children rather than only examining these relations among older children. Data indicate that children's knowledge of stereotypes and awareness of gender constancy become uniform during the elementary school years (Huston, 1983), and, theoretically, everyone also becomes increasingly gender schematic across this period (Bem, 1985). Thus, the careful study of these phenomena among preschool children would seem particularly fruitful since it may provide information regarding the influence of cognitive sex-typing phenomena on other aspects of sex-role socialization that cannot be untangled at other ages. Specifically, assessment is needed of relations among young children's gender-relevant cognitions in order to determine the relative importance of these variables in early sex-typing. The present study was designed with this goal in mind.

Our major purpose was to explore developmentally relations among gender schematization, children's knowledge and understanding of sex-role stereotypes, and both preferences for sex-typed toys and memories for gender-relevant information. A number of hypotheses were made about the relations among these variables. First, we expected that older children's memories would be more accurate and that their toy preferences would be more sex-typed than those of younger children. Second, in line with theoretical expectations (Martin & Halverson, 1981), gen-

der schematization was hypothesized to be predictive of children's memories for gender-relevant information. Specifically, we hypothesized that gender schematicity would be positively associated with accuracy in memories for stereotype-consistent stimuli and negatively associated with accuracy in memories for stereotype-inconsistent stimuli. Third, we predicted that, in line with earlier research (e.g., Cann & Newbern, 1984; Martin & Halverson, 1983; Signorella & Liben, 1984), gender schematization would be related to children's memory errors. Specifically, while we expected that simple memory errors would be unrelated to degree of gender schematization, gender schematization was hypothesized to be positively associated with gender transformation errors. Finally, in accordance with gender schema theory (e.g., Martin & Halverson, 1983), we hypothesized that gender schematization would be positively associated with preferences for sex-typical toys and negatively associated with preferences for sex-atypical toys. In every case we expected that, contrary to predictions from traditional theoretical approaches, gender constancy, knowledge of sex-role stereotypes, and beliefs in stereotype flexibility would be unrelated to memories and preferences. Confirmation of these hypotheses would support the notion that gender schematization, and not sex-stereotype knowledge or gender constancy, is the most important cognitive variable in early sex-role socialization.

Method

Subjects and Interviewers

A total of 60 preschool-aged boys ($N = 28$; M age 52.9 months) and girls ($N = 32$; M age 52 months) participated. The children ranged in age from 33 to 68 months with a mean age of 52.4 months and attended preschools serving middle-class populations. Two adult males and two adult females served as interviewers, and each tested approximately equal numbers of boys and girls on each section of the interview.

Materials and Procedure

All children participated in two 15–20 min, individual interviews held within 1 week. One session was conducted by a female interviewer while the other was conducted by a male interviewer.

First Interview

In the first interview, children's knowledge of sex-role stereotypes, their beliefs in stereotype flexibility, and their understanding of gender constancy were assessed. The mea-

sures and assessment procedures have been described extensively elsewhere (Carter & Taylor, in press; Edelbrock & Sugawara, 1978) and thus are described only briefly here.

Stereotype knowledge and flexibility measure.—Children's sex-stereotype knowledge and beliefs in stereotype flexibility were assessed through use of the first portion of the Sex Role Learning Index (SERLI; Edelbrock & Sugawara, 1978). Children sorted a series of 20 10×10 -cm black-and-white line drawings of common objects, half masculine-typed and half feminine-typed, into boxes labeled "for girls," "for boys," and "for both boys and girls." After their initial sorting, the both box was removed and children resorted the cards from that box into a sex-typed category. Using the standard score procedures (Edelbrock & Sugawara, 1978), two scores resulted: total percentage of sex stereotypes correctly identified and a percentage score reflecting beliefs in stereotype flexibility.

Gender constancy interview.—Stage of gender constancy was assessed through use of a modified version of both Slaby and Frey's (1975) and Emmerich's (e.g., Emmerich, Goldman, Kirsh, & Sharabany, 1977) gender constancy interviews. Children responded to 13 questions shown in previous research to consist of three reliable subscales (Carter & Taylor, in press). The first subscale (Gender Identification) assesses children's knowledge of their own gender and the gender of a drawing of a same-sex figure. The second subscale (Personal Gender Permanence) verbally assesses children's knowledge that gender is permanent over time despite changes in appearance, desires, or play activities. The third subscale (Perceptual Gender Permanence) assesses knowledge that pictured figures do not change gender due to changes in hair length, clothing, or both. This subscale employs 21×28 -cm line drawings of boys and girls (15 cm in height) contained in separate booklets for each sex. The first page of each booklet has a picture of a same-sex child and is cut at the neck region so that by turning one or more portions of the page corresponding parts of the lower picture of an other-sex child are revealed. Either the upper, lower, or both sections of the first page were turned to reveal the corresponding body parts beneath. With each transformation, children indicated whether or not the sex of the pictured person remained constant. In order to pass all subscales, children are required to give a gender-constant answer on every item on that subscale.

Second Interview

The second interview consisted of three sections. Children first were asked to memorize line drawings of children and adults engaged in stereotype-consistent and stereotype-inconsistent activities. Next, children's toy preferences and processing of gender-relevant information were assessed. Finally, the recall and recognition memory tasks were administered. The materials associated with these sections and the procedures for administering the measures are described below.

Recall/recognition memory task.—The items children memorized consisted of 16 drawings, mounted on cardboard, picturing men and women (eight items) and girls and boys (eight items). Half of the items for each sex and for each age group were stereotype-consistent while the remainder were stereotype-inconsistent. Items to be memorized were presented individually. Items for the recognition memory task consisted of the original memory items plus 24 additional drawings. These drawings were presented on 21 × 28-cm sheets of paper, each of which contained eight drawings. There were 10 pictured activities at each age level (child and adult), each of which was illustrated with both a picture of a female and a male engaged in the activity. The order of presentation of the drawings was initially randomized and the same order subsequently was employed.

The interviewer gave a verbal label and showed each illustration to the child for 5 sec. Following the Schematization/Preference measure, both children's recall and their recognition memories were assessed. Children first were asked to recall (Recall Task) and then to identify the 16 pictures they had seen from the group of 40 line drawings (Recognition Task).

Toy preference and schematic processing task.—Line drawings of children's toys were employed in the toy preference/schematization portion of the study. Each black-and-white illustration was 10 × 10 cm and pictured a feminine-typed (kitchen set, doll, sewing machine), masculine-typed (gun, bat and ball, truck), or neutral-typed (balloon, drum, telephone) toy. These items were chosen since children in earlier research (e.g., Carter & McCloskey, 1984) had indicated these items fell in the categories described

above. The illustrations were mounted in pairs on 21 × 28-cm sheets of cardboard and covered in plastic. Children saw a total of 24 pairs of toys. Twelve of these pairs contrasted masculine and feminine toys, six pairs contrasted sex-typed toys (half masculine and half feminine) with sex-neutral toys, and six pairs contrasted two same-sex-typed toys (half masculine and half feminine).¹ Masculine, neutral, and feminine toys appeared equally on the right and on the left sides of the pairings.

Children were asked to indicate which toy of each pair was their favorite by pointing to the preferred item as quickly as possible. Children's understanding of the task was assessed by a series of questions and counter-questions (e.g., "Which picture do you point to?"). Interviewers recorded children's choices and timed their response latencies (reaction times) using a digital stopwatch.

Results

Criterion and predictor variables.—The two interview sessions resulted in a total of 15 scores for each child. The seven scores that served as predictor variables in the multiple regressions are described first. Children's sex and age, taken from school records, the percentage of stereotypes correctly identified (stereotype knowledge score; SERLI), and the percentage of items classified as being appropriate for both sexes (stereotype flexibility score; SERLI) served as four of the predictor variables.

Children's level of gender constancy was the fifth predictor variable and was scored in a manner described elsewhere (e.g., Carter & Taylor, in press) according to the following criteria. In order to pass a particular subscale, children had to answer correctly all items on that subscale as well as all questions on earlier subscales. Thus, children in Stage IV ($N = 11$; age in months $M = 58.7$) were able to identify accurately their own and others' gender, recognized that gender remained constant despite changes in wishes, desires, or activities, and maintained that gender remained constant despite perceptual changes in clothing or hair length. Children in Stage III ($N = 27$; age in months $M = 52.8$) accurately identified their own and others' gender and recognized constancy in gender despite changes in wishes or desires but gave non-constant responses to questions dealing with

¹ While all masculine-feminine toy contrasts were included in the reaction time/preference task, we do not include some combinations of pairs of sex-typed with neutral toys and of pairs of sex-typed toys in order to reduce the total amount of time required for the second interview.

perceptual transformations. Children in Stage II ($N = 20$; age in months $M = 48.7$) were able only to identify their own and others' gender and failed one or more items on the subsequent subscales. Finally, children in Stage I ($N = 2$; age in months $M = 44$) failed one or more items on every subscale. Results of a Guttman Scalogram Analysis indicated that children could be perfectly (coefficient of reproducibility = 1.00) classified into one of these four stages.

A 2 (sex of child) \times 4 (stage of gender constancy) analysis of variance on children's age in months indicated significant differences between children at different stages of gender constancy, $F(3,53) = 5.85$, $p < .005$. Neither the main effect for sex nor the interaction term were significant (both F 's < 1). Examination of the results of Duncan multiple-range tests (Kirk, 1982) indicated that children classified as being in Stage IV were significantly ($p < .05$) older than children in Stages I or II. No other comparisons were significant.

The final two predictor variables were derived from children's reaction times to specific toy comparisons in the toy preference task. The first score was based on children's reaction times to toy pairs consisting of masculine and feminine toys (12 pairs). This score was termed the facilitated choice score, since it was assumed that automatic invocation of the gender schema would make a choice between a masculine-feminine pair easier and result in lowered reaction times relative to other choices. The second score was based on children's reaction times to toy pair choices consisting of two same-sex or two opposite-sex items (six pairs). This score was termed the inhibited-choice score. It was assumed that since the gender schema could offer no information about which of the pair was preferable, its automatic invocation for these toy pairs would serve no purpose but actually would work against the decision-making process, resulting in longer reaction times relative to other choices. In both cases, children's reaction times to the relevant pairings were summed and then standardized by dividing this sum by each child's overall average reaction time. Reaction times to the remaining six toy pairs were not included in any analyses.²

Eight criterion variables resulted from the interviews: two toy preference scores, two

recall memory scores (items correct and errors), and four recognition memory scores (number of stereotype-consistent and stereotype-inconsistent items correct, number of simple errors, number of gender transformation errors). The first two scores reflected preferences for same-sex toys (defined as the number of times a child chose a same-sex toy over either an opposite-sex or sex-neutral toy in the reaction time/toy preference task) and for opposite-sex toys (defined as the number of times children chose an opposite-sex toy over a same-sex or sex-neutral toy). In each case, scores could range from 0 to 12. The two recall memory scores were uniformly low (no. correct: $M = 1.4$, range 0-7, mode = 0; no. of errors: $M = .23$, range 0-2, mode 0) and were not subjected to formal analyses. Thus, the four remaining recognition memory scores, described below, served as the major indices of children's memories.

For the recognition memory task, the number of stereotype-consistent and stereotype-inconsistent items correctly recognized were tabulated for each child. Two types of memory errors were also tabulated for each child. Simple recognition errors were scored whenever a child remembered seeing an illustration that had not been shown (false recognition) or failed to remember seeing an illustration that had been shown. Gender transformation errors were scored when a child remembered seeing a stereotype-consistent illustration when a stereotype-inconsistent illustration had been viewed (e.g., a child maintaining that a male doctor had been seen when in fact the picture presented was of a female doctor). No stereotype-inconsistent to stereotype-consistent gender transformations occurred. Scores on these four measures were divided by the total number of identifications (correct + errors + transformations) and could range from 0% to 100% on each measure.

Table 1 presents means and standard deviations for the six criterion variables (percentage of stereotype-consistent and stereotype-inconsistent items correctly recognized, percentage of simple recognition memory errors, percentage of gender transformation errors, and percentages of sex-appropriate and sex-inappropriate toy preferences) and six of the seven predictor variables (children's age, inhibited choice score, facilitated choice score, stage of gender constancy, stereotype

² These transformations eliminate, as a matter of course, between-subject differences in overall reaction times which result from variables such as children's age. They do, however, appear to retain differences among individuals which result from the ease or difficulty which choosing between specific kinds of pairs presents.

TABLE 1
MEAN SCORES AND STANDARD DEVIATIONS FOR PREDICTOR AND CRITERION
VARIABLES

Variable	Mean	SD
Predictor variables:		
Age in months	52.4	8.3
Inhibited choice .....	.110	.488
Facilitated choice	-.038	.312
Stage of gender constancy	2.8	.78
Stereotype knowledge score	85.8	14.3
Stereotype flexibility score	21.8	17.9
Criterion variables:		
Sex-consistent correct	30.8	12.7
Sex-inconsistent correct	24.1	10.4
Simple errors	18.1	11.8
Gender transformation errors	26.7	15.3
Sex-appropriate preference score	65.1	18.5
Sex-inappropriate preference score	32.4	17.9

knowledge, and stereotype flexibility scores). The remaining predictor variable (children's sex) is not included in Table 1.

Preliminary Analyses

A 2 (sex of child) \times 2 (sex of interviewer) \times 3 (age of child) multivariate analysis of variance was conducted to determine the influence of interviewer sex on the variables. Examination of the results of both the multivariate and univariate tests indicated no significant sex of interviewer effects, nor did sex of interviewer interact with any of the remaining variables (all F 's < 1). Thus, this variable was eliminated from all further analyses. For all other analyses, initial analyses included children's sex and all possible interaction terms as predictor variables in each model. Because no interaction terms contributed to the regression models (all F 's < 1), these terms were eliminated from all further analyses.

Zero-order correlations were computed in order to determine relations among the predictor and criterion variables and to ascertain whether or not any problems with multicollinearity would emerge in these data. Since the largest condition index was only moderately large (26.3), no adjustments for multicollinearity were deemed necessary. The zero-order correlations may be found in Table 2.

Correlates of Children's Recognition Memories

A series of nonhierarchical multiple regression models were tested to determine the effects of the predictor variables on children's recognition memories. In each case, the regression model included children's age (in

months), sex, scores on the two gender schematization measures (facilitated choice, inhibited choice), gender constancy, sex-stereotype knowledge, and stereotype flexibility scores as predictor variables.

Accuracy in children's recognition memories.—The multiple regression predicting children's memories for stereotype-consistent illustrations was significant, but only children's age in months contributed significantly to the obtained equation (see Table 3). Examination of the correlation (see Table 2) indicated that, consistent with our predictions, age was positively associated with accuracy in memories for stereotype-consistent stimuli. Despite the fact that one measure of gender schematization correlated significantly with children's memories (facilitated choice scores; see Table 2), neither index of gender schematization contributed significantly to the model. This finding was inconsistent with our predictions.

The model predicting children's memories for stereotype-inconsistent illustrations also was significant (see Table 3). Examination of the individual variables in the equation indicated that both children's age in months and gender schematization (as measured by inhibited choice scores) contributed significantly to the model. Inspection of the correlations (see Table 2) indicated that, consistent with our hypotheses, age was positively and gender schematization negatively associated with accuracy in children's memory for stereotype-inconsistent stimuli.

Errors in Children's Recognition Memories

Nonhierarchical multiple regressions were employed to assess relations between

TABLE 2

ZERO-ORDER CORRELATIONS AMONG CRITERION AND PREDICTOR VARIABLES ($N = 60$)

	SEX	AGE MOS	INHIB CHOICE	FACIL CHOICE	GEN CONS	STER KNOW	STER FLEX	CONS CORR	INCONS CORR	ERR TOT	GENDER TRANS	A PREF	I PREF
Sex		-.05	-.34**	.32*	.08	.16	.15	-.12	.03	.01	-.18	-.46**	.37**
Age (in months) .....			.14	-.25	.49	.50**	-.40**	.48**	.47**	-.41**	.09	.37**	-.40**
Inhibited choice				-.59**	.19	.03	-.16	.21	-.31*	.02	.54**	.55**	-.62**
Facilitated choice					-.02	-.14	.16	-.26*	.12	-.13	-.31	-.51**	.56**
Stage of gender constancy .....						.23	.27	.30*	.18	-.40**	.06	.15	-.23
Stereotype knowledge							-.30*	.24	.26*	-.18	-.16	.08	-.16
Stereotype flexibility								-.10	.16	.19	.05	-.25*	.31*
Sex-consistent correct .....									.62**	-.51**	.01	.31*	-.34**
Sex-inconsistent correct										-.50**	-.44*	.08	.01
Errors (total) .....											.03	-.21	.18
Gender transformations .....												.15	-.27*
Sex-appropriate preferences													-.84**
Sex-inappropriate preferences

* $p < .05$.** $p < .01$.

TABLE 3
RESULTS OF NONHIERARCHICAL MULTIPLE REGRESSIONS PREDICTING PERCENTAGES OF
STEREOTYPE-CONSISTENT AND STEREOTYPE-INCONSISTENT ITEMS CORRECTLY REMEMBERED

Criterion and Predictors	R ²	Std. β Estimate	df	F	p<
Stereotype-consistent items:					
Model .....	.285	...	7,52	2.96	.01
Age .....		.418	1,52	6.89	.05
Sex		-.082	1,52	.39	
Inhibited choice .....		.062	1,52	.16	
Facilitated choice		-.106	1,52	.46	
Gender constancy .....		.119	1,52	.70	
Stereotype knowledge .....		.056	1,52	.15	
Stereotype flexibility .....		.157	1,52	1.41	
Stereotype-inconsistent items:					
Model .....	.378	...	7,52	4.51	.001
Age .....		.538	1,52	13.08	.001
Sex		-.086	1,52	.49	
Inhibited choice		-.380	1,52	6.79	.05
Facilitated choice .....		.053	1,52	.16	
Gender constancy		-.004	1,52	0	
Stereotype knowledge .....		.006	1,52	0	
Stereotype flexibility .....		.003	1,52	0	

the predictor variables and both children's simple recognition memory errors and their gender transformation errors. The results of these analyses are found in Table 4.

Simple recognition errors.—The nonhierarchical multiple regression model predicting children's simple recognition errors was significant (see Table 4), but only children's age in months contributed significantly to the model. Examination of the correlation (see Table 2) indicated that children's age in

months was negatively associated with recognition memory errors. Thus, as predicted, only children's age was associated with simple recognition memory errors.

Gender transformation errors.—The nonhierarchical multiple regression predicting the number of gender transformation errors was significant, but only gender schematization (as indicated by inhibited choice scores) contributed significantly to the model (see Table 4). As predicted, gender

TABLE 4
RESULTS OF NONHIERARCHICAL MULTIPLE REGRESSIONS PREDICTING PERCENTAGES OF RECOGNITION
MEMORY ITEMS FORGOTTEN AND TRANSFORMED

Criterion and Predictors	R ²	Std. β Estimate	df	F	p<
Items forgotten:					
Model .....	.279	...	7,52	2.87	.05
Age		-.351	1,52	4.81	
Sex .....		.054	1,52	.17	
Inhibited choice		-.075	1,52	.23	
Facilitated choice		-.290	1,52	3.43	.07
Gender constancy		-.230	1,52	2.57	
Stereotype knowledge .....		.006	1,52	0	
Stereotype flexibility .....		.017	1,52	0	
Gender transformation errors:					
Model .....	.341	...	7,52	3.85	.005
Age .....		.195	1,52	1.63	
Sex .....		.031	1,52	.06	
Inhibited choice .....		.549	1,52	13.40	.001
Facilitated choice .....		.002	1,52	0	
Gender constancy		-.060	1,52	.19	
Stereotype knowledge		-.189	1,52	1.91	
Stereotype flexibility .....		.136	1,52	1.15	

TABLE 5

RESULTS OF NONHIERARCHICAL MULTIPLE REGRESSIONS PREDICTING PERCENTAGES OF
SEX-APPROPRIATE AND SEX-INAPPROPRIATE TOY PREFERENCE SCORES

Criterion and Predictors	R ²	Std. β Estimate	df	F	p <
Sex-appropriate preferences:					
Model .....	.491	...	7,52	7.16	.0001
Age .....		.289	1,52	4.62	.05
Sex		-.264	1,52	5.59	.05
Inhibited choice .....		.314	1,52	5.65	.05
Facilitated choice		-.172	1,52	1.70	
Gender constancy		-.031	1,52	.07	
Stereotype knowledge		-.046	1,52	.15	
Stereotype flexibility		-.044	1,52	.16	
Sex-inappropriate preferences:					
Model .....	.537	...	7,52	8.60	.0001
Age		-.230	1,52	3.24	.10
Sex .....		.153	1,52	2.07	
Inhibited choice		-.398	1,52	10.01	.005
Facilitated choice .....		.197	1,52	2.46	
Gender constancy		-.018	1,52	.02	
Stereotype knowledge		-.025	1,52	.02	
Stereotype flexibility .....		.083	1,52	.60	

schematization was positively correlated with the number of gender transformation errors committed by children (see Table 2).

Correlates of Children's Sex-typed Preferences

Results of the multiple regression analyses predicting sex-typing in children's preferences for sex-appropriate and sex-inappropriate toys are presented in Table 5. These analyses indicated that both models were significant. Examination of the individual variables indicated that children's sex, age in months, and gender schematization (as measured by inhibited choice scores) contributed significantly to the equation predicting preferences for same-sex toys. Examination of the means and patterns of zero-order correlations (see Table 2) indicated that boys ($M = 8.9$) exhibited greater same-sex preferences than did girls ($M = 6.9$), and that age and gender schematization were positively associated with sex-typed toy preferences. In contrast, preferences for opposite-sex toys were predicted only by gender schematization (as measured by inhibited choice scores; see Table 5), which was negatively associated with these preferences (see Table 2). Children's age in months also contributed to the equation, although it failed to reach acceptable levels of significance.

Discussion

The results of greatest interest are the relations between measures of children's gender schematization and both their memories and toy preferences. Consistent with our pre-

dictions, gender schematization was positively associated with children's same-sex toy preferences and was negatively associated with both recognition memories for stereotype-inconsistent behaviors and preferences for opposite-sex toys. The fact that gender schematization also was associated positively with greater numbers of gender transformational errors supports the notion that gender schemas tend to bias processing by introducing distortions in memory for schema-inconsistent material (e.g., Martin & Halverson, 1981). Taken together, the findings strongly support the hypotheses that gender schemas influence sex-typing in choices and affect the processing of schema-inconsistent information.

In contrast, our data offer no support for the notion that either knowledge of sex-role stereotypes, beliefs in their flexibility, or gender constancy are predictive of children's recognition memories or sex-typed toy preferences. These findings suggest the need for revisions in our theories about the roles these variables play in early sex-role development. The fact that stereotype knowledge did not predict accuracy in children's memories or their preferences is consistent with the notion that the in-group/out-group schema, which encompasses stereotype knowledge, does not affect directly the processing of gender-relevant information.

The lack of relations between beliefs in stereotype flexibility and children's memories and preferences is somewhat more problematic. Earlier research with older children

has shown significant positive relations between flexibility and both sex-typing in children's behavior (e.g., Carter & Taylor, *in press*) and gender-relevant memories (e.g., Signorella & Liben, 1984). The discrepant results, however, may reflect differences in the meaning of stereotype flexibility for children of these different ages. For younger children, stereotype flexibility may reflect uncertainty about sex-typing rather than a failure to recognize the social conventional nature of sex-typing norms seen in older children (e.g., Carter & Patterson, 1982). In contrast, among older children, a lack of stereotype flexibility may reflect a developmental delay in the acquisition of an adequate understanding of social conventional norms. The fact that, contrary to previous research, both age and stereotype knowledge were negatively associated with stereotype flexibility supports this interpretation. Clearly, further research on stereotype flexibility and its role in sex-role development is warranted.

The absence of relations between gender constancy and both the measures of recognition memory and sex-typed preferences was not unexpected. In the two decades since this concept was first introduced only a few investigations have been able to demonstrate significant relations between the acquisition of a constant gender identity and any other relevant variables (e.g., Emmerich & Shepard, 1984; Slaby & Frey, 1976). In contrast, an increasing body of evidence indicates that children's acquisition of gender labeling skills forms an important basis for later sex-role development (e.g., Fagot et al., 1986; Kuhn et al., 1977; Weinraub et al., 1984). Moreover, data from several studies indicate that, while gender constancy is related to other Piagetian-type constancies (e.g., conservation skills; Marcus & Overton, 1978), it is unrelated to children's stereotype knowledge, imitation of models, or to sex-typed preferences (e.g., Bussey & Bandura, 1984; Carter & Taylor, *in press*; Marcus & Overton, 1978). Overall, the findings are increasingly supportive of the notion, emerging from gender schema theories, that gender identity, and not gender constancy, forms the basis for children's understanding of gender-relevant information. Thus, while it may be premature, as noted by Emmerich (1982), to abandon the concept of gender constancy completely, our data offer no support for the idea that it is an especially important aspect of early sex-role development.

Other interesting results include the relations between gender schematization and children's memory errors. Overall, gender

schematization was positively associated with gender transformational errors, but was unrelated to children's simple memory errors. Interestingly, different patterns of errors emerged in the responses of children falling at the schematic and aschematic ends of our gender schematization measures. While all children tended to falsely recognize stereotype-consistent illustrations, gender schematic children were more likely also to transform stereotype-inconsistent illustrations and remember them as stereotype-consistent. Thus, this pattern of errors supports the notion that gender schematization should be related to systematic memory errors which result in the transformation of stereotype-inconsistent information.

The final finding of interest was the fact that children's inhibited choice scores, and not their facilitated choice scores, were consistently predictive of their memories and toy preferences. It might be expected that both measures should be indicative of gender schematization and thus would predict children's scores on these variables. It seems likely that choices between same-sex toy pairings should be particularly difficult only for highly gender schematized children since their invocation of the gender schema would offer no assistance in making a choice. In point of fact, invocation of the gender schemas under such circumstances would render an already difficult choice even more difficult. Thus, individual differences in relative reaction times should be maximized for such toy pairings. In contrast, the relative reaction times for all children should be enhanced in the masculine versus feminine choices since the majority of children of this age in our culture would be expected to show at least a minimal amount of gender schematization (e.g., Bem, 1981) and presumably could take advantage of stereotype information in making their choices. Thus, for these choices, individual differences in reaction times would be minimized. Clearly, further research is needed to explore the implications of these measures of gender schematization.

Our results indicate that gender schematization is related to gender-relevant memories and to sex-typing in young children's toy preferences. Moreover, the results indicate that reaction times to particular toy-pair choices are a more reliable index of gender schematization than are children's knowledge of sex stereotypes, their stereotype flexibility, or their stage of gender constancy. It remains to be seen, however, whether or not gender schematization (especially as we measure it) will be predictive of other cognitive concom-

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mitants of gender schematization and of various behavioral aspects of sex-typing. For example, further research will be necessary to determine ways in which gender schemas may influence children's play behavior, their interests in sex-typed activities, and in careers. Nonetheless, our results suggest that gender schematization exerts an important influence in early sex-role development and illustrate the utility of a gender schematic approach to early sex-typing phenomena.

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tions are of interest. Those with consistent idiosyncratic or symbolic representations were youngest (51.1 and 51.6 mo., respectively), followed by the pictographic representation group (52.0 mo.), the iconic representation group (54.5 mo.), and lastly the mixed representation group (56.7 mo.). An analysis of variance test indicated that these differences were not statistically significant.

DISCUSSION

The children in this study were exposed to a wide range of activities during their time at kindergarten. The programs followed emphasized oral work and social development and did not include previous practice in making written representations of given numbers of objects. Nevertheless, some 56% of the children were able to produce written representations which consistently enabled them to solve the practical problems with which they were presented—to select the tin which contained the number of blocks specified. As in the study reported by Hughes (1986), the present sample also favoured representations based on one-to-one correspondence, although some children were already comfortable with the symbolic system to be used subsequently in formal instruction. The obtained results confirm that many children commence formal schooling with substantial written as well as oral mathematical skills and concepts.

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EVALUATION OF A YOUNG CHILD'S BEHAVIOR: EFFECTS OF ATTRACTIVENESS AND SEX¹

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Summary.—Facial drawings of 2- or 4-yr.-old boys or girls differing in attractiveness were attached to an episode which depicted a mild misbehavior. Neither the attribution of responsibility for the behavior nor the choice of an indulgent vs punitive response was associated with the child's attractiveness, sex, or age. These findings suggest that the halo effects of attractiveness discriminations may not be fully operative at these ages.

Infancy is characteristically a time of behavioral freedom. Animal infants usually bear a phenotypic marker (Alley, 1980) and when this marker is lost their behavior must conform to appropriate sex and hierarchical roles. Human infants also enjoy a period of indulgence which is ultimately replaced by behavioral restraints. When this narrowing of behavioral latitude occurs, whether it is gradual or abrupt, and what stimulus variables may be involved, remain largely unanswered questions.

One approach is to examine whether variables known to function with older individuals are applied to children. For example, attractiveness discriminations pervade human social interaction but Horvath, *et al.* (1987) suggested that very young children may be less susceptible to attractiveness differentiations. Dion (1972, 1974) and Berkowitz and Frodi (1979) reported that sex and attractiveness differences affect adults' evaluation of children's behavior by the age of 8 to 10 yr. The present study was conceived as an extension of the work of Dion (1972, 1974) to a younger age range and used facial drawings representing 2- and 4-yr.-old children. The question was whether, at these ages, attractiveness and/or sex differences affect adults' evaluations of a minor misbehavior.

METHOD

The subjects were 338 women and 107 men (mean age 25.1 yr.) enrolled in various undergraduate classes. Subjects participated anonymously and were tested in groups usually at the start or end of a regular class session.

Subjects were given a single sheet containing a paragraph in the upper left corner which described an episode involving insensitivity toward a household pet. Briefly, the family cat had been injured the day before and had a bandaged leg. This morning the child began to play with a toy drum

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which made a very loud noise. Mother explained that the kitten was not feeling well and asked the child to play with something else but, when mother was occupied, the child picked up the drum again and beat it loudly causing the kitten to screech and limp away. The episode identified the hypothetical child as "Pat" and as being either 2 or 4 yr. old. A facial line drawing of "Pat," occupying an area approximately 10 by 10 cm, was placed in the upper right corner of the sheet. The drawings were taken from Horvath, *et al.* (1987) and depicted 2- and 4-yr.-old children of both sexes: at each age/sex combination two drawings representing relatively attractive and unattractive facial feature combinations were used. In all subject groups both attractive and unattractive faces for a given age/sex combination were tested to avoid confounding by class membership.

Subjects chose which of two statements best described the event and indicated their agreement with the chosen alternative on a 5-point scale. One alternative described Pat as a mischief maker who enjoyed causing trouble, and the other described Pat as a normal child and suggested that mother should have been more watchful. In selecting one of these alternatives subjects placed the responsibility for the episode either internally on the child or externalized it to the mother. Subjects also chose which of two statements best described how mother should handle the situation and again indicated their agreement on a 5-point scale. The alternatives were that mother should not make a fuss over this or that mother should give Pat a spanking. This question gave subjects the option of a relatively indulgent or punitive response. Additional questions asked subjects to indicate their age, sex, and whether they were parents. Subjects' ratings of their agreement with the attribution of responsibility alternatives were coded as a single measure with attribution of responsibility to the child receiving negative values, so the scores could range from -5 to +5. A similar coding was performed on the indulgent/punitive response alternatives with punitive choices receiving negative values.

RESULTS AND DISCUSSION

Table 1 shows the over-all means and standard deviations of the responsibility and indulgent/punitive ratings.

An attractiveness by sex by age by subject's sex by subject's parenthood unequal-cells analysis of variance was performed on the responsibility attribution and indulgent/punitive ratings. This analysis can produce 31 *F* ratios which, in the case of unequal cells, are not completely orthogonal and which in any case are not corrected for familywise Type I error (Keppel, 1982), so some prudence is required in the selection of alpha. Table 2 presents the *F* ratios obtained from the analyses of the responsibility and indulgent/punitive ratings. With $\alpha = .01$, there were no main or interaction effects

on the responsibility variable. The interaction of stimulus age by subjects' sex approached criterion ($F_{1,414} = 5.94$, $p = .02$) such that men gave a greater attribution of responsibility to the child when at age 4 than at age 2. Women did not differentiate attribution of responsibility as a function of children's ages. A similar analysis of the indulgent/punitive ratings yielded only an interaction of subjects' sex by parenthood ($F_{1,414} = 7.95$, $p = .005$). Male nonparents were less punitive than female nonparents, but male parents were more punitive than female parents.

TABLE 1
OVER-ALL MAIN EFFECT MEANS AND STANDARD DEVIATIONS OF
RESPONSIBILITY AND INDULGENT/PUNITIVE RATINGS

Variable	n	Responsibility Rating		Indulgent/Punitive Rating	
		M	SD	M	SD
Attractiveness					
Attractive	225	2.10	2.72	2.26	2.36
Unattractive	220	2.14	2.73	2.32	2.49
Child's Sex					
Girl	268	2.01	2.85	2.26	2.51
Boy	177	2.29	2.52	2.32	2.30
Child's Age					
2 Years	237	2.32	2.63	2.22	2.55
4 Years	208	1.89	2.81	2.36	2.28
Subjects' Sex					
Female	338	2.19	2.58	2.23	2.37
Male	107	1.92	3.12	2.48	2.59
Subjects' Parenthood					
Parent	79	2.63	2.33	2.86	1.93
Nonparent	366	2.01	2.79	2.16	2.50

Although Horvath, *et al.* (1987) suggested that very young children may be less susceptible to attractiveness distinctions, it is nonetheless clear that attractiveness is a meaningful stimulus characteristic of children (Kenealy, *et al.*, 1987; Alley, 1981; Hildebrandt & Fitzgerald, 1979; Kirkland & Smith, 1978; Sternglanz, *et al.*, 1977). When the data were analyzed separately for the two stimulus ages (leaving the independent variables of attractiveness, sex, subjects' parenthood, and subjects' sex), no main or interaction effects occurred for the 2-yr.-old children. However, in the 4-yr.-olds' data there was an indication of a main effect for attractiveness ($F_{1,191} = 4.37$, $p = .04$) such that attribution of responsibility to the child was greater for the more attractive child. This contrasts with previous findings that attractiveness generates positive halo effects and supports the possibility that attractiveness effects are situation-specific, as has been reported for adults (Izzett &

Fishman, 1976; Sigall & Ostrove, 1975). Attractiveness did not interact with any other variable.

TABLE 2
F RATIOS FROM FIVE-WAY ANALYSES OF VARIANCE OF RESPONSIBILITY
AND INDULGENT/PUNITIVE RATINGS

Source	df	Responsibility Rating		Indulgent/Punitive Rating	
		F	p	F	p
Attractiveness (A)	1	1.82	.18	.04	.85
Child's Sex (CS)	1	3.02	.08	.45	.51
Child's Age (CA)	1	4.85	.03	1.83	.18
Subjects' Sex (SS)	1	.54	.47	2.94	.09
Subjects' Parenthood (P)	1	.45	.50	1.65	.20
A × CS	1	.02	.89	.06	.80
A × CA	1	4.14	.04	3.85	.05
A × SS	1	2.94	.09	.00	.96
A × P	1	.11	.74	.29	.59
CS × CA	1	3.54	.06	1.51	.22
CS × SS	1	4.00	.05	1.08	.30
CS × P	1	.35	.55	.00	.95
CA × SS	1	5.94	.02	3.92	.05
CA × P	1	2.19	.14	1.58	.21
SS × P	1	.78	.38	7.95	.01
A × CS × CA	1	.37	.16	.15	.70
A × CS × SS	1	.44	.51	.08	.79
A × CS × P	1	1.85	.17	.18	.67
A × CA × SS	1	.23	.63	1.34	.25
A × CA × P	1	4.66	.03	3.65	.06
A × SS × P	1	.14	.71	.30	.59
CS × CA × SS	1	1.33	.25	1.49	.22
CS × CA × P	1	.86	.35	.90	.34
CS × SS × P	1	.53	.47	.52	.47
CA × SS × P	1	3.32	.07	1.54	.22
A × CS × CA × SS	1	.39	.53	.28	.60
A × CS × CA × P	1	.31	.58	.72	.40
A × CS × SS × P	1	.33	.57	.45	.50
A × CA × SS × P	1	1.11	.29	2.88	.09
CS × CA × SS × P	1	.30	.58	.51	.48
Five-way interaction suppressed					
Residual	414				

The absence of an over-all effect for attractiveness is noteworthy and these data suggest that halo effect consequences of attractiveness discriminations lag somewhat behind the point at which they are initially made. The 4-yr-olds' (but not 2-yr-olds') data also suggested a main effect for sex ($F_{1,193} = 4.52, p = .04$) such that attribution of responsibility to the child was greater for the girl stimulus than for the boy. This may reflect a cultural

stereotypic notion that girls should be more sensitive to the feelings of others, including animals. Sex of the child did not interact with any other variable.

Ratings of responsibility were not affected by subject sex, parenthood, or their interaction. Subjects' sex and parenthood did interact to affect the indulgent/punitive rating with nonparent males being less punitive than nonparent females while parent males were more punitive than parent females. This reversal may reflect the experience of women as primary caretakers and implies that such experience modifies attitudes toward greater leniency. Men, on the other hand, may be reflecting the traditional role of disciplinarian. Neither the child's sex nor attractiveness interacted with subjects' sex or parenthood to affect either attribution of responsibility or indulgent/punitive response.

An increasing trend toward daycare services wherein the immediate caretaker is someone other than the biological parent makes it appropriate to examine adult-child interactions. Because adults' evaluation of a child's behavior is likely affected by many factors, including personality and past and current life-history variables, the present study used a large number of subjects to minimize possible confounding effects. The stimulus properties of the child are a part of the adult-child interaction complex (e.g., Emde, *et al.*, 1985) and perhaps deserve more attention from researchers. The stimulus properties of young children may be salient in different ways than for older individuals. Finally, as a practical implication, the present findings relating to subjects' sex and parenthood suggest that women with child-rearing experience are appropriate daycare personnel.

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The Development of Gender Stereotype Components

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MARTIN, CAROL LYNN; WOOD, CAROLYN H.; and LITTLE, JANE K. *The Development of Gender Stereotype Components*. CHILD DEVELOPMENT, 1990, 61, 1891-1904. Developmental research has been limited by a narrow concept of stereotypes. A more complex model is presented, and developmental changes in gender stereotypes were investigated using the new model. In 2 studies, children were told about several sex-unspecified children, each described as having 1 masculine or 1 feminine characteristic. The children then predicted the likelihood of each story child having other masculine and feminine characteristics. In Study 1, 56 children (4-6 years) were told about target children who liked either a masculine or feminine toy, and then children predicted the targets' interests in other toys. In Study 2, 76 older children (6, 8, 10 years) were told about target children with a masculine or feminine characteristic from 1 of 4 categories (appearance, personality, occupations, toys), and then they predicted the likelihood of targets having other masculine and feminine characteristics from the same and from different categories as the cue. 2 developmental trends emerged: (a) children appear first to learn associations among characteristics relevant to their own sex and, later, to learn them for the other sex, and (b) older children's stereotypic judgments are more extreme than those of younger children. The implications of these results for the development of stereotypes, assessing gender knowledge, and understanding social judgments are discussed.

Little is known about how children learn gender stereotypes because developmental researchers have used a reasonable, but narrow, concept of stereotypes. In this article, we present a more complex model of gender stereotypes and reconsider what we know about gender stereotype development using the new model. We also present two studies that were designed to investigate developmental changes in gender stereotypes.

Gender stereotypes have been defined as beliefs about the behaviors and characteristics of each sex (Del Boca & Ashmore, 1980). Based on this conception, developmental researchers have determined levels of stereotype knowledge by using the relatively simple method of assessing when children are able to associate gender groups and sex-typed

characteristics. For example, in popular stereotype tests, when children infer that a woman is more likely to cook than a man, we assume that they know and are using gender stereotypes. But this is only one way stereotypes are used. Adults also make stereotypic inferences based on knowledge of a sex-typed attribute rather than on a person's sex. For instance, when adults "guess" that a long-haired person is more likely to wear a dress than trousers, they are basing this prediction on their gender-related knowledge concerning the co-occurrence of masculine and feminine characteristics.

A Component Model of Stereotypes

To account for more complex forms of stereotyping, a broader perspective is needed. Our concept of gender stereotypes is

The work reported here was funded by a Humanities and Social Science Grant (No. 5-57907) from the University of British Columbia. Study 1 is based on a master's thesis done by the second author and Study 2 is based on a master's thesis done by the third author, both under the direction of the first author. They were submitted to the University of British Columbia in partial fulfillment of the requirements for the M.A. degree. Portions of this work were presented at the meeting of the Society for Research in Child Development, Baltimore, April 1987. We gratefully acknowledge the assistance of Mary Etey, Pat Habich, Michelle McBride, Hilary Rose, and Deborah Victor in data collection (Study 2) and thank Margaret Arcus, Richard Fabes, Daniel Perlman, and Tannis Williams, for their helpful suggestions. Requests for reprints should be sent to Carol Martin, Department of Family Resources and Human Development, Arizona State University, Tempe, AZ 85287-2502.

TABLE 1

TYPES OF ASSOCIATIVE LINKS IN
GENDER STEREOTYPES

Gender label—component links:	
Associating person's sex with gender-related component information	
a)	man—has short hair
b)	woman—wears a dress
Within-component links:	
Associating information within a content domain based on its "masculinity" or "femininity"	
a)	wears a dress—wears high heels
b)	is assertive—is independent
Between-component links:	
Associating information between different content domains based on its "masculinity" or "femininity"	
a)	has broad shoulders—is assertive
b)	wears a dress—is nurturant

based on the Deaux and Lewis (1984) component model (designed to account for adult stereotyping) where gender stereotypes are viewed as a set of associations between gender labels (i.e., "male," "female") and gender-related, content-specific beliefs. Beliefs are organized by content areas (e.g., occupations) and are labeled "components" of the stereotype. Presumably for children, just as for adults, there are at least four main components: role behaviors, occupations, traits, and physical appearance. Each component has a masculine and a feminine version. For instance, within the occupation component, the masculine version would include "plumber," whereas the feminine version would include "nurse."

From the evidence obtained with adults, we know that there are three types of associations that link the information within gender stereotypes (see Table 1). The most simple type occurs between gender labels and information in each component. Even when we only know someone's sex, we can make predictions about the person's behavior, occupation, traits, and appearance (e.g., Ashmore & Del Boca, 1979; Deaux & Lewis, 1984). The second type of association occurs within components. By knowing a characteristic about someone in one content domain, for instance, an interest (e.g., likes cooking), we can make inferences about the person in the same content domain (e.g., likes sewing) based on the gender concepts of masculinity and femininity that link information within each content domain. The third type of association occurs between components. When we know a char-

acteristic about someone in one content domain, we can make inferences about the person in other content domains (e.g., knowing someone likes to cook leads to the inference that this person likely has long hair). Because of these associative links, we can infer much about a person, albeit sometimes erroneously, based on a single piece of information.

Reconsidering Stereotype Development

Most developmental theorists have focused on only the most simple stereotype association: how children learn to associate gender groups and sex-typed characteristics. For instance, in the schematic processing approach (Martin & Halverson, 1981, 1987), we argued that the "superordinate" gender schema allows children to fit information about people, toys, clothes, activities, traits, and jobs into either the male ("for boys") or female ("for girls") category, thereby initiating the formation of gender label—component links. Similarly, most of the studies on children's gender stereotypes have focused on documenting the existence of these simple associations. The typical procedure has been to assess whether children associate males or females with various toys, jobs, traits, and physical characteristics. For instance, research has shown that even young children associate gender labels with appearance cues (i.e., identify the sexes; Thompson, 1975), with role behaviors (i.e., activities and toys; Blake, LaRue, & Olejnik, 1979; Martin & Little, in press; Thompson, 1975), and with occupations (Kuhn, Nash, & Bruckner, 1978; O'Keefe & Hyde, 1983; Papalia & Tennent, 1975). Moreover, Williams, Bennett, and Best (1973) found that even kindergarten children know the sex-typing of personality traits, and this knowledge increased with age. In summary, many investigators have found that very young children have developed the label-component associations that exist in each content domain.

Missing in the literature is research on children's understanding of the more complex types of stereotype associations. To date there are no studies assessing whether children can make stereotypic inferences either within or between gender-related components. Limiting research to only the simple associations has fostered the assumption that, for young children, stereotype knowledge has "reached ceiling," thereby making it a relatively uninteresting construct in understanding sex-role development.

Acquiring Complex Stereotype Associations

Young children clearly understand the relatively simple links between gender la-

bels and sex-typed characteristics. To match adults' thinking, however, they must also learn at some point to make the more complex component-based inferences within and between the different content domains. How do these complex associations develop? The most intuitively compelling and logical explanation is the "mediation hypothesis": complex associations are mediated by their simple associations to gender groups. That is, once children know how gender labels and component information are associated, they are able to draw all other logical stereotypic inferences. For instance, a child who knows that boys like trucks and boys like cars should be able to infer that someone who likes trucks will also like cars.

Although appealing, the mediation hypothesis may not hold because it involves inferences that are difficult for children to make. To be able to use gender this way, children must first infer the person's sex once told an attribute and then make another inference based on their guess about the person's sex. However, children are able to infer a category from an attribute developmentally later than inferring an attribute from a category, at least using novel attributes (Gelman, Collman, & Maccoby, 1986). Similarly, young children do not use higher-order categories such as traits to mediate judgments of others. For instance, children may understand that sharing lunch and helping a friend are each associated with the trait "being kind," but they do not necessarily assume that a person who shares her lunch will also help her friends (Rholes & Ruble, 1984). Although no research has directly tested the mediation hypothesis for gender-related judgments, there is some evidence to suggest that young children have difficulty making complex stereotypic judgments. Unlike older children (7-9 years) and adults, young children (4-5 years) are unable to use component information to make predictions when it conflicts with predictions made from gender labels (Berndt & Heller, 1986; Martin, 1989; Zucker, Wilson, & Stern, 1985). For instance, when told about a girl who likes playing football, young children predict that she would like dolls more than cars, that is, they assume that she would like girls' toys (because she is a girl) despite the evidence that she has one traditionally masculine interest.

An explanation that may help to resolve these apparent inconsistencies in how children make social judgments concerns social experience. That is, the learning of complex associations requires either direct experience of the covariation (or lack of) among compo-

nent items or simply repeated exposure and practice with the information before inferences can be drawn. If social experience influences learning, we would expect children to first learn associations relevant to their own sex and later learn associations relevant to the other sex. This process is consistent with schematic processing views concerning the development of gender schemas. Specifically, once children are able to identify their own gender group, they become more motivated to approach, attend to, and to learn about own-sex activities and interests than about other-sex activities and interests (Martin & Halverson, 1981). There is some evidence of this selective learning: children have more in-depth information about own-sex than other-sex toys (Halverson & Martin, 1985) and they learn more about novel objects labeled as being for their sex than about those labeled as being for the other sex (Bradbard, Martin, Endsley, & Halverson, 1986).

To investigate how children learn complex gender associations, two studies were conducted. The first study was designed to test the generality of the mediation hypothesis. The second study was designed to explore age differences in children's complex gender-based judgments.

Study 1

We assessed whether young children make stereotypic predictions about others when they know the person's interest (i.e., a favorite toy) but do not know the person's sex. Children were told stories about sex-unspecified fictitious children with either traditionally masculine or feminine toy interests. They were asked to predict how much the fictitious children would be interested in the toys used in the stories, as well as in new masculine and feminine toys. Predictions would be considered to be stereotypic when children expect others to be more interested in toys that are consistent with their stated interests than those that are not (e.g., predicting that a child who is said to like a masculine toy will like other masculine toys more than feminine ones).

The results should help us understand whether gender labels mediate component judgments and why, in earlier studies, young children were unable to use component information when making predictions about others. There are several possible outcomes. One outcome could be that children consistently make stereotypic predictions. This would suggest that they are either using gen-

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der to mediate their judgments, or that they have had enough social experience to learn all the stereotypic associations among toys. The failure to use interests to make predictions in previous studies would then be due to reasons unrelated to their gender-related knowledge (e.g., developmental constraints). The second outcome could be that children consistently fail to make stereotypic predictions, suggesting that they are unable to use gender to mediate their judgments or that they have not yet learned the complex stereotypic associations among toys. The failure to use interests to make predictions in the earlier studies would then likely be due to the lack of predictive value of interests. Because of children's tendencies to first learn about own-sex information, we expected a third outcome, that children would make stereotypic predictions selectively (i.e., only for others with own-sex-relevant interests). This would suggest that gender is not used to mediate judgments, and that children have learned more associations among own-sex-typed toys than among other-sex-typed toys. The failure to use interests in previous studies, then, has to be explained as a combination of lack of knowledge about associative links (for other-sex-relevant predictions) and some kind of developmental constraint, such as being unable to consider multiple sources of conflicting information (for own-sex-relevant predictions).

We also investigated whether young children's use of component information is influenced by its salience. Interest information was not made salient in previous studies. To manipulate salience, some stories included pictures of the favorite toys (higher salience) and some included only verbal descriptions (lower salience). Because mentioning only one toy interest may not make the child's interest salient, we also varied the number of toys used in the stories (two toys or one toy). Moreover, to ensure that children in this study were similar to those from previous studies, they were given a task to assess whether, when given *both* gender and interest information, they based their inferences on gender labels. Finally, to ensure that children knew the simple associations between gender labels and masculine/feminine interests, a standard stereotype knowledge assessment was conducted.

Method

Subjects.—Fifty-six children (26 girls, 30 boys), ranging in age from 38 to 73 months, were recruited from local day-care centers.

The majority of children were Caucasian (88%) and from middle-class homes.

Toy selection.—A total of 18 sex-typed toys (nine feminine toys, nine masculine toys) were required for the study (see Appendix A). Toys were selected from a previously tested sample of 113 toys considered to be sex-typed by at least 75% of children (Halverson & Martin, 1985).

Procedure.—Each child was tested individually in a small room or in an area away from other children. Testing involved two 10-min sessions held between 4 and 7 days apart. In the first session, the experimenter explained that she wanted the child to decide how much other children liked certain toys. To indicate liking, children were trained in using the faces rating scale. The scale consisted of three face pictures (big smile, little smile, big frown) drawn on 5 × 8-inch white cards. The children were instructed to point to the face with a big smile to indicate that the child liked the toy a lot, the face with a little smile to indicate that the child liked the toy a little, and the face with a big frown to indicate that the child did not like the toy at all. Then, the gender-plus-interest task was administered. This task was used to assess whether children could make stereotypic predictions when given both gender and interest information. Half of the children were told one brief story and half were given four brief stories (two of girls and two of boys), randomly selected from Martin's (1989) counter-stereotypic conditions.¹ In each story, a picture of the target child was shown, and the child was described as having a best friend of the opposite sex and an interest in a traditionally sex-inconsistent toy (e.g., "Jason's best friend is a girl. Jason likes to play with makeup kits"). Each story also contained neutral information (e.g., "Jason lives down the street"), and the target child's name, age, and sex. The age of the target child corresponded to the age of the child being tested. After hearing each story, children then rated how much they thought the target child would like the same toy as mentioned in the story, two toys consistent with the target child's gender, and two toys consistent with the target child's interest (order of toys was randomized). Presentation of male and female story versions was counter-balanced.

Next, children were tested for their knowledge of stereotypes for the toys used (either 16 or 18 toys were used depending on

¹ The number of stories was changed to improve the reliability of these results.

the number of gender-plus-interest stories used). Children were shown, one at a time, pictures of toys and were asked to indicate whether only girls, only boys, or both girls and boys most like to play with the toy by placing each toy in front of one of three rating cards. After sorting all pictures, a forced-choice procedure was used for the items placed in the category "for boys and girls." For these items, the experimenter said, "You said both boys and girls like [toy name], but who likes it most, boys or girls?" The toys were presented in one predetermined order. The gender-plus-interest task always preceded the stereotype task so as not to make stereotypes salient to the child.

In the second testing session, the experimenter reviewed the faces rating scale. Then the interest-only task was administered. This task tested children's abilities to make predictions when they know about a toy someone likes but they do not know the person's sex. Three conditions (single interest, multiple interests/no pictures, multiple interests/pictures) were used to manipulate the salience of toy interest information. In each condition, there was a story about someone with a masculine interest and a story about someone with a feminine interest. This resulted in stories about six fictitious children (three with feminine interests, three with masculine interests). Children were first presented with a story from the single-interest condition in which they were told about a gender-unspecified child's interest in one sex-typed toy (e.g., "A child I know really likes to play with dolls"). Then the experimenter said, "Now I want you to help me decide what other toys this child would like to play with. Remember, this is not about what you like, but about what the other child that I told you about would like." Using the faces scale, children then predicted how much they thought the target child would be interested in each of five toys. Two of the toys were interest consistent, that is, they had the same sex-typing as the toys in the story (e.g., if the story toy was a football, then an airplane), two of the toys were interest inconsistent (e.g., if the story toy was a doll, then a race car), and one toy was simply the toy used in the story (i.e., the same toy). Toys were presented in random order. The next story the child heard was the other version (masculine or feminine) with only a single interest. Again, the child made predictions about how much the other child would like five toys. This general procedure was then repeated for each condition with a few minor changes. In the multiple-interest/no-

pictures condition, children were told about a child interested in two toys from the same sex-typing category. For the multiple-interest/pictures condition, children were told about a child interested in two toys from the same category, and pictures of these two toys were shown. Because the multiple-interest conditions each involved stories of children with two toy interests, a total of six predictions, instead of five, were made for each description (two same, two consistent, two inconsistent).

The single-interest stories were always administered first to ensure that the stories with multiple interests and pictures would not influence children's predictions in the single-interest condition. Orders of presentation of the stories in the two multiple-interests conditions were counterbalanced. Order of presentation of the masculine and feminine versions within each of the three conditions was also counterbalanced.

Scoring.—Children's ratings of targets' toy interests were derived from the 3-point faces scale (score of 3 = "likes a lot," 2 = "likes a little," and 1 = "not like at all"). For the interest-only task, mean scores were computed for consistent toys, inconsistent toys, and same toys. For the gender-and-interest task, mean scores were computed for toys consistent with the gender of the target, toys consistent with the interests of the target, and the same toy as stated in the story.

For the stereotyping measure, a score of 1 was given for children who either originally gave a stereotyped answer (e.g., they said only girls play with doll houses) or when forced to choose gave a stereotyped answer (e.g., they said both boys and girls like to play with a tool kit, but when forced said only boys). A score of 0 was given for children who originally gave a counterstereotypic answer (e.g., they said only boys play with doll-houses) or when forced to choose gave a counterstereotypic answer (e.g., they said both boys and girls like to play with a tool kit, but when forced said only girls).

Results

Judgments made when gender labels were present.—To assess whether the children in this sample responded similarly to children in earlier studies (e.g., Martin, 1989), we analyzed their predictions when they heard stories in which gender labels and component information were discrepant (e.g., a boy with a feminine interest). Planned comparisons revealed that children tended to base their inferences on gender labels more than

on toy interests. For each of the fictitious target children,² young children predicted that they would be more interested in toys consistent with the gender of the target ($M = 2.49$) than for toys consistent with the interests of the target ($M = 1.99$), $t(29) = 4.13$, $p < .0001$. No significant differences were found between attributed interest in toys consistent with the gender of the target and those previously stated in the story (same toys) ($M = 2.39$). Thus, the young children in this study predicted others' interests in the same way as did the young children in earlier studies: they used the sex of the person more than using their toy interests to make predictions.

Judgments made when gender labels were absent.—The main analysis involved assessing whether children consistently make stereotypic predictions when they are only given information about targets' interests. Their predictions were dependent measures in a repeated-measures analysis of variance (ANOVA), with one between-subject factor, sex of subject, and three within-subject factors, condition (single interests, multiple interests/no pictures, and multiple interests/pictures), cue type (same-sex and opposite-sex), and target type (same, consistent, and inconsistent).³

If increasing the salience of interests makes stereotypic predictions more likely, then a significant condition \times target type interaction should be found. But the interaction was not significant, indicating that salience of interests did not influence stereotypic judgments. However, the interaction of sex of subject \times condition was significant, $F(2,108) = 7.98$, $p < .001$. Newman-Keuls analysis revealed that boys attributed to the target children an equal interest in toys regardless of their salience, whereas girls predicted that others would like the toys in the single-interest condition ($M = 2.49$) more than toys in the multiple-interests/pictures condition ($M = 2.32$) or the toys in the multiple-interests/no-pictures condition ($M = 2.29$) (p

$< .01$ for both comparisons). The two multiple-interest conditions did not differ.

If children consistently make stereotypic predictions, we would expect to find an unqualified significant target-type effect that would indicate that children believed others would prefer toys consistent with their interests more than toys inconsistent with their interests. The target-type effect was found, $F(2,108) = 61.79$, $p < .001$, but it was subsumed by the significant interaction of cue type and target type, $F(2,108) = 15.16$, $p < .001$. Simple effects analyses revealed that the target effect was significant for same-sex cues and for opposite-sex cues ($p < .001$). When judgments were made from same-sex cues or from opposite-sex cues, Newman-Keuls analyses revealed that children would like the same toys most of all (see Table 2). This is hardly surprising given that they were told that these toys were liked by the target children. The more interesting comparisons concerned whether children predicted that others would like toys that were consistent with the target's favorite toy more than inconsistent toys. When judgments were made from same-sex cues, Newman-Keuls analyses revealed that children made stereotypic predictions (i.e., they said targets would like consistent toys more than inconsistent toys) ($p < .05$). When judgments were made from opposite-sex cues, however, they did not make stereotypic predictions. This pattern suggests that children make stereotypic predictions selectively rather than consistently.

During the interest-only task, children's spontaneous remarks about the sex of target children were recorded. Three girls and four boys mentioned sex. For example, when the experimenter said, "I know a child who really likes to play with a purse and comb set a lot and also with a dollhouse a lot," two girls and one boy asked if the target child was a girl (the experimenter answered that she did not know and repeated the statement). Also, when the experimenter said she knew a child

² Means for same, gender-consistent, and interest-consistent toy ratings were summed across the four replication stories. Because half of the subjects were tested with only one story and the other half were tested with four stories, this meant a decrease in subjects by 50%. However, when t tests for rating scores were individually computed for each story, it was found that differences between all means (except as expected between same and gender-consistent toys) were significant at at least the .03 level.

³ An analysis of variance selecting for children whose ages ranged between 43.0 and 73.0 months was also calculated because this age range was the most accurate match to Martin's (1989) young children. This meant dropping six children between 38.5 and 43.0. The results of this analysis did not reveal significant effects different from the analysis using all children. Selecting for different ages was therefore not used in any further data analysis; results are reported only from the analysis using all ages.

TABLE 2
MEAN PREDICTIONS OF OTHERS' TOY PREFERENCES AS A FUNCTION OF CUE TYPE
AND TARGET CONSISTENCY: STUDY 1

	SAME-SEX CUES			OPPOSITE-SEX CUES		
	Target Same	Target Consistent	Target Inconsistent	Target Same	Target Consistent	Target Inconsistent
Boys ($n = 30$)	2.68 (.44)	2.41 (.39)	1.89 (.46)	2.57 (.49)	2.13 (.40)	2.29 (.46)
Girls ($n = 26$)	2.83 (.27)	2.40 (.43)	1.92 (.41)	2.73 (.32)	2.15 (.37)	2.15 (.54)
Total ($n = 56$)	2.76	2.41	1.91	2.65	2.14	2.22

NOTE.—Standard deviations are in parentheses.

who liked to play with a tool kit a lot and also with an airplane a lot, two boys spontaneously remarked, "That's a boy." All seven gender remarks "correctly" identified the sex of the target child who would traditionally be associated with the sex-typed toy (e.g., purse and comb sets are associated with girls). These findings suggest that some children may easily draw these gender-label inferences. However, the percentage of these spontaneous gender inferences is still low (2%) given the number of predictions children made.

Stereotyping scores.—Children showed high levels of stereotypic knowledge for the 16 toys presented in the two testing sessions ($M = 12.78$).⁴ Only five children answered 50% or more of the questions "incorrectly," indicating they did not give traditional sex-typing attributions. These findings indicate that most of the children knew the simple stereotypic associations between gender labels and the toys used.

Discussion

The purpose of this study was to investigate whether children can make complex stereotypic predictions when they know only about someone's interests. We found that children were able to make stereotypic inferences about others, but they did not make these judgments consistently. Instead, children demonstrated selective stereotyping: they made stereotypic judgments for others with toy interests like their own but not for others with interests unlike their own. That is, boys made stereotypic judgments when told about an unknown child with masculine interests but not when they were told about an

unknown child with feminine interests. Conversely, girls made stereotypic judgments when told about an unknown child with feminine interests but not when the other had masculine interests. When interests were made more salient by presenting multiple examples and by showing pictures of toys, stereotypic judgments were *not* more likely to occur.

It is unlikely that gender labels mediated children's judgments. If they did, stereotypic predictions would have been made consistently rather than selectively. Given that children demonstrated own-sex selectivity, a more likely explanation concerns social experience. Because from birth most children are encouraged to engage in traditionally "sex-appropriate" activities (see Huston, 1983), they may acquire more direct experience of the associations among own-sex activities than they do for other-sex activities. It is intriguing, however, that some children spontaneously guessed the sex of the target children, indicating that they may have used gender to mediate their judgments. Perhaps gender is very salient for these children. Further research is needed to explore individual differences in using gender to mediate judgments.

The present findings reflect on earlier research concerning how children use gender-related information to make social judgments. In the earlier studies in which children were given conflicting information about someone's sex and an interest (e.g., a boy who likes feminine toys), young children ignored the information about interests in their judgments.

⁴ For the stereotype measure, children were tested with unequal numbers of toys (due to unequal stories in testing of the replication task). Therefore, to equalize children's toy ratings when calculating the stereotype scores, two toys were randomly dropped from analysis. This resulted in a total of 16 instead of 18 toys.

Given the present findings, their failure to use interests has to be explained as a combination of the lack of knowledge about gender associations (when making opposite-sex-relevant predictions) and some kind of developmental constraint that limits the number of information sources young children can use (when making own-sex-relevant predictions).

Study 2

The results from Study 1 suggest the importance of investigating the development of the complex stereotypic associations that constitute children's gender stereotypes. Just because children have label-component links does not indicate that they can make the full range of associations within stereotypes. Instead, there appear to be developmental changes in learning gender-based associations.

One developmental trend is learning first about information that is relevant to one's own sex. The 4- and 5-year-olds in Study 1 understood own-sex- (and not other-sex-) relevant associations within the one component that was tested (i.e., toys). This pattern is consistent with the idea that children learn more in-depth information about own-sex schemas than other-sex schemas (Martin & Halverson, 1981). Despite this tendency, we would expect that, as children get older and acquire more experience, they should also acquire associations among other-sex-relevant information. Thus, the first goal of Study 2 was to further investigate age differences in understanding of own- and other-sex-relevant information by testing children older than those used in Study 1.

In Study 1, we assessed how children make complex stereotypic predictions within the domain of toys. But adults are able to use their gender schemas to make predictions across content domains. No research has been conducted to investigate when children begin to make these between-component judgments. Thus, the second goal of Study 2 was to examine the development of these between-component links by using four content domains. We expected that, similar to within-component links, children will first begin to make judgments based on own-sex information because of the influence of own-sex selectivity. At a later age, children should begin to make between-component judgments based on opposite-sex information. No direct evidence exists concerning whether the associations within and between components differ. We might assume, however, that within-component associations would be learned

prior to associations between components because it is a simpler cognitive task to learn associations within a category than between categories.

Finally, if social experience influences the learning of gender-related associations, we would expect to find that the strength of the association among gender-related items will increase with age. In other words, as children grow older, they will differentiate more between masculine and feminine characteristics. There is evidence of this pattern in one study where children made judgments about how much boys and girls will like masculine and feminine toys. Older children (6-10) were more extreme than younger children (3-5): they predicted, for example, that boys would like masculine toys more and feminine toys less than did the younger children (Martin, 1989).

The ability to use within- and between-component links was assessed in 6-, 8-, and 10-year-old children. Children were told about eight unknown children, each of whom was described as having a masculine or feminine characteristic (cue item) from one of the components. After each description, children made judgments about how much the target child would like other masculine and feminine items from the same and from different components (target items).

Method

Subjects.—Seventy-six children (38 boys and 38 girls) attending after-school care programs, Sunday schools, and soccer clubs in a large urban area were interviewed. Children from three age groups (6, 8, and 10 years) were tested. The mean ages of the 6-year-old group was 77 months ($SD = 3.9$), the mean age of the 8-year-old group was 103 months ($SD = 3.6$), and the mean age of the 10-year-old group was 124 months ($SD = 4.3$). Most of the children (91%) in the sample were Caucasian, and half were from two-parent families.

Materials and procedure.—To make the stories and the questions for the judgment task, three masculine and three feminine items were chosen to represent each of the four components (traits, clothing, occupational aspirations, and toy preferences). For an item to be chosen, it had to be demonstrated as being sex-typed by at least 75% of the children in previous studies. From the set of 24 items, one masculine and one feminine item was selected from each component to be used as the cue in a story (see Appendix B). This resulted in eight stories. The remaining

eight feminine and eight masculine items were used to develop the questions. For each story, eight questions were formulated: two were target items from the same component as the cue (one was same-sex relevant and the other was opposite-sex relevant) and six were target items from each of the other three components (one from each component was same-sex relevant and one from each was opposite-sex relevant). Thus, children were told stories about eight children and made eight predictions about each child.

Five female undergraduate research assistants interviewed the children. Each experimenter underwent extensive training and was periodically monitored to maintain as much uniformity in interview techniques as possible. The experimenters were not familiar with the hypotheses of the study.

Each child was tested individually in a quiet area away from other children. Before data collection began, children were trained to use the face scale to indicate their predictions of others' preferences. Then the judgment task was begun. First, children were told about a target child of unspecified sex who likes an item (cue item) from one of the components (e.g., "I know a child who really likes to play with tool kits"). Then children were asked to indicate on the face scale how much the target child would like a series of masculine and feminine items (e.g., "How much would this child want to wear a dress?") (target items), two of which were from the same component (within-component judgments), and six of which were from the other three components (between-component judgments). Cue information was repeated during questioning to ensure that children did not forget the cue. If a child indicated that he or she did not understand the meaning of a target item, the experimenter would give him or her a standard definition that the child could understand.

Three predetermined random orders of within- and between-component target items and cue items were constructed. Each order was given to at least 24 children (at least four males and four females from each of the three age groups).

Results

Children's judgments were analyzed using a repeated-measures ANOVA. There were two between-subject factors (sex and age: 6, 8, and 10 years) and three within-subject factors (judgment-type: within- and between-component judgments; cue type: same and opposite sex-typing to the subject's

sex; and target type: consistent and inconsistent with the sex-typing of the cue item). Although the pattern of results differed slightly owing to the content domain, component type was not included as a factor in the final analysis so as to increase the reliability of the data. The dependent measure was the preference ratings given to the target items.

The first prediction was that children would make stereotypic judgments from own-sex-relevant cues prior to opposite-sex-relevant cues. To test this prediction, children's judgments when given same- and opposite-sex cues were compared across ages. The predicted developmental trend was found (see Table 3). The 6-year-old children were able to make stereotypic predictions (i.e., the target effect was significant) when given own-sex cues but not when given opposite-sex cues. In contrast, the 8- and 10-year-olds made stereotypic predictions when given either same-sex or opposite-sex cues ($p's < .001$).

Developmental changes were expected for the extremity of stereotypic judgments. Overall, the analysis showed that children made stereotypic predictions (i.e., the target effect was significant), $F(1,70) = 350.48$, $p < .001$, and the main effect for age was significant, $F(2,70) = 5.95$, $p < .01$. But, as expected, both of these effects were subsumed by higher-order interactions. Specifically, we expected to find that judgments would be more extreme for older children than for the younger children. This prediction was supported by the significant age \times target type interaction, $F(2,70) = 19.51$, $p < .001$. Simple effects analyses demonstrated that the target-type effect was significant at each age level ($p's < .001$), indicating that children in each age produced stereotypic judgments. Stereotypic judgments were more extreme, however, for the older children than for the younger ones. According to simple effects analyses, the increase in extremity was due to age changes in judgments about target characteristics that were inconsistent with the cues rather than for those that were consistent with cues. Newman-Keuls analyses showed that the 6-year-olds predicted that others would like target characteristics that were inconsistent with cues more than did the 8-year-olds and 10-year-olds. Similar analyses of consistent target characteristics showed no age-related differences. Within these content domains, as children get older, they appear to learn more about which characteristics do not co-occur.

The degree of stereotyping varied depending on whether children's judgments

TABLE 3
MEAN PREDICTIONS CONCERNING OTHERS' CHARACTERISTICS AS A FUNCTION OF
AGE, CUE TYPE, AND TARGET CONSISTENCY: STUDY 2

AGE AND SEX	SAME-SEX CUE		OPPOSITE-SEX CUE	
	Target Consistent	Target Inconsistent	Target Consistent	Target Inconsistent
Six-year-olds:				
Girls.....	2.30 (.32)	1.78 (.38)	2.06 (.29)	1.96 (.39)
Boys.....	2.20 (.35)	1.63 (.28)	2.10 (.39)	2.00 (.45)
Total	2.25	1.71	2.08	1.98
Eight-year-olds:				
Girls.....	2.32 (.24)	1.32 (.20)	2.08 (.40)	1.48 (.33)
Boys.....	2.11 (.30)	1.51 (.35)	2.13 (.33)	1.58 (.41)
Total	2.23	1.41	2.10	1.53
Ten-year-olds:				
Girls.....	2.34 (.26)	1.38 (.21)	2.06 (.18)	1.55 (.30)
Boys.....	2.24 (.18)	1.38 (.15)	2.32 (.17)	1.41 (.19)
Total	2.29	1.38	2.19	1.48
Girls.....	2.32	1.49	2.07	1.65
Boys.....	2.19	1.51	2.18	1.66

NOTE.—Standard deviations are in parentheses.

were based on same or opposite cues, $F(1,70) = 20.79$, $p < .001$. Girls and boys showed slightly different patterns, as indicated by the significant sex \times cue type \times target type interaction, $F(1,70) = 4.14$, $p < .05$. Simple effects analyses showed that the cue type \times target type interaction was significant for girls ($p < .001$) and marginally significant for boys ($p < .11$). Further analyses showed that both girls and boys made stereotyped predictions: they predicted that others would like consistent items better than inconsistent items regardless of cue type (p 's $< .001$). As can be seen in Table 3, however, stereotypic predictions tended to be less extreme when made from opposite-sex cues than when made from same-sex cues. One reason that the ratings were less extreme for girls was that, for consistent items, they predicted that others would like the items more when following a same-sex cue than an opposite-sex cue. For both sexes, the ratings were less extreme because, for inconsistent items, they predicted that others would like the items less when following a same-sex cue than an opposite-sex cue (p 's $< .01$).

We suspected that stereotypic judgments (i.e., a target effect) would occur for within-component judgments prior to between-component judgments, yet this was not borne

out. Within- and between-component judgments showed somewhat different patterns, however. The sex \times judgment type \times cue type interaction was significant, $F(1,70) = 21.99$, $p < .001$. Simple effects analyses showed that the cue \times sex interaction was significant for judgments made between components and not for judgments made within components. Further analyses showed that, for between-component judgments, the cue type effect was significant for both sexes (p 's $< .001$) but the patterns differed. As can be seen in Table 3, boys tended to predict that others would like the items more when given same- versus opposite-sex cues. In contrast, girls tended to predict that others would like the items more when given opposite-sex rather than same-sex cues. Because this finding refers to children's predictions about overall liking (i.e., for consistent and inconsistent characteristics combined), it is not apparent how it relates to developmental changes in stereotypes.

Discussion

The purpose of Study 2 was to investigate the ability of children of three ages to make gender-related associations within and between four content domains. Two major developmental trends were apparent. First, children appear to learn the associations among

own-sex characteristics before learning the associations among opposite-sex characteristics. The 6-year-olds in this study were similar to the 4-year-olds in Study 1 in making stereotypic judgments selectively: they made stereotypic judgments for others with interests like their own and not for others with interests unlike their own. This selectivity suggests that gender labels are not simply mediating stereotypic judgments. By the age of 8, children demonstrated understanding of all types of associative links. They made stereotypic predictions about others' interests in one content domain given only one piece of information from a different content domain, and they could do this both when the other had own-sex- or opposite-sex-relevant characteristics.

The second major developmental trend concerned stereotype extremity: older children were more extreme in their stereotypic judgments than the younger children. This difference was particularly due to older children expecting stronger negative associations among stereotype-inconsistent characteristics than younger children. For example, when told about someone who likes airplanes (i.e., a masculine interest), older children thought the person would dislike dolls (i.e., a feminine interest) more than did younger children. The strength of positive associations among sex-consistent characteristics did not differ for younger and older children. One unexpected finding was that stereotype extremity was more pronounced for judgments based on own-sex-relevant cues (vs. opposite-sex-relevant cues), and this tendency was more apparent in girls than in boys.

It was also somewhat surprising to find so few differences between judgments made within versus between components. Within-component judgments were not learned first. Instead, once children could make one type of judgment, they could also make the other type. Apparently, the gender concepts of masculinity and femininity are powerful enough to overwhelm differences based on specific content domains.

General Discussion

Implications for the Development of Gender Stereotypes

Contrary to the popular assumption that children's stereotype knowledge reaches ceiling in early childhood, the present findings suggest that stereotypes continue to develop into middle childhood. By using the component model to consider the present results and the results of earlier studies, we can elaborate

our knowledge about stereotype development. Specifically, stereotypes appear to develop through a series of stages. Children in the first stage (the one that has been emphasized by most researchers) learn what kinds of things are directly associated with each sex, such as "boys play with cars," and "girls play with dolls." At least for the domains we assessed, around the ages of 4-6, children seem to move to the second stage, where they begin to develop the more indirect and complex associations for information relevant to their own sex but have yet to learn these associations for information relevant to the opposite sex. By the time they are 8, children move to the third stage, where they have also learned the associations relevant to the opposite sex. These children have mastered the gender concepts of masculinity and femininity that link information within and between the various content domains.

In addition to changes in the *types* of associations, the *quality* of these associations also changes as children get older. Specifically, older children make more extreme stereotypic judgments than do younger children when they know only someone's sex (Martin, 1989) or when they know only someone's interests (the present studies). This tendency may be due to expansions in the breadth of children's gender-related knowledge. As more information becomes associated with gender labels and/or gender concepts, perceived distinctions may increase (see Martin, 1989).

The origins of these developmental trends are unclear. Social experience influences the types of associations children learn, although the present results suggest that social experience does not simply aid children's learning of which things co-occur, it also helps children learn which things do *not* co-occur. The timing of these developmental trends may also depend on the nature of the information. It may be that more concrete and obvious characteristics, such as toys and appearance, are learned more quickly than abstract characteristics (e.g., traits).

Implications for Assessing Children's Knowledge

These findings demonstrate that gender concept learning does not proceed as expected, and, furthermore, suggest that the learning of other concepts may follow similar unexpected patterns. Specifically, the mediation hypothesis was not supported: children did not automatically associate two pieces of information, even when each was associated with a gender group. For instance, even when

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children understood that boys play with cars and boys play with airplanes, they did not necessarily understand that those children who play with cars are likely also to play with airplanes (and not dolls). The formation of these label-component links does not guarantee the formation of other logical links among items. Instead, an incomplete associative network forms and is used for information processing. Further research is necessary to demonstrate whether similar patterns of learning occur when children acquire other kinds of concepts.

Given that children's gender stereotypes continue to develop during middle childhood, we should not assume that research on gender stereotype knowledge is uninteresting. For instance, we now need to reconsider how this knowledge influences behavior. Are children's behaviors more likely to be influenced by simple label-focused concepts of gender or by the more complex, multifaceted, and multipredictive (i.e., from either labels or components) fully formed concepts? Possibly both influence behavior, although in different ways. Additional research, using more sophisticated methods, is needed to assess how children's gender-related knowledge influences behavior.

Implications for Understanding Children's Social Judgments

To understand how judgments are made, it is necessary to assess the predictiveness or diagnosticity of the available information (Krueger & Rothbart, 1988). Researchers disagree about the predictive value of categorical (e.g., person's sex) and individuating (e.g., person's interest) information when making judgments about others. In some cases, individuating information appears to have stronger predictive value than categorical information (Locksley, Borgida, Brekke, & Hepburn, 1980) whereas, in other cases, both types of information have predictive value (Rasinski, Crocker, & Hastie, 1985).

Diagnosticity of information is an especially important issue in the developmental literature. How does the predictive value of information change as children's stereotype knowledge develops from simple to more complex types of associations? In Stage 1, when children know only the simple gender label-component associations, their range of gender-based predictions is limited: gender labels have predictive value, whereas other types of gender-related information do not. Essentially, masculinity is equivalent to being male and femininity is equivalent to

being female. Thus, categorical information about gender subsumes all other information.

Children in Stage 2 make perplexing social judgments. When given conflicting category and individuating information, they make category-based predictions (i.e., based on person's sex). But, when they are not told someone's sex, they can make predictions based on individuating (i.e., component) information, at least when predicting about others with interests like their own. This suggests that own-sex-relevant information is diagnostic whereas opposite-sex-relevant information is not. Thus, it is not surprising that in previous studies when children have been asked to make predictions about others with interests unlike their own, they used sex as a basis for making predictions because only sex had predictive value. Interests would not be predictive because these associations have not yet been learned. What is surprising is what happens when children have been asked to make predictions about others with interests like their own. In these cases, they have two sources of information with predictive value: the person's sex and the sex typing of their interests. Given either of the two information sources, children can and do make stereotypic judgments but, when these two sources of information lead to conflicting predictions, these children default to the predictions based on sex.

If interests are diagnostic for these children, why are they ignored when information about sex is present? Perhaps this can be explained as a general cognitive constraint. Young children may base inferences on only one piece of information due to their inability to integrate multiple pieces of information at the same time (see Higgins, 1981). This type of cognitive constraint helps explain *how much* but not *what kind* of information children use. If constrained to only one type of information, the most salient information may be used (see Higgins, 1981). As children grow older, they tend to change from using concrete, external categories to using more abstract and internal categories to describe others (Livesley & Bromley, 1973; Peevers & Secord, 1973; Scarlett, Press, & Crockett, 1971). Similarly, for these young children, gender labels (that represent external categories) may be perceived as being more salient than sex-typed interests (that represent internal categories) (Martin, 1985; Martin & Halverson, 1981). Further research is needed to understand the kinds of social judgments Stage 2 children make.

By the time children have reached Stage 3, they have at their disposal the full range of stereotype knowledge. This marks the complete emergence of the psychological constructs of masculinity and femininity which are distinct (but not entirely independent) from actual gender labels. Developing an understanding of the concepts of femininity and masculinity does not, however, signal a lessening of gender stereotyping. Older children simply have more levels of information (i.e., gender labels and gender concepts) upon which judgments can be made, and they clearly use both of these types of information when making social judgments (Berndt & Heller, 1986; Martin, 1989). Having an understanding of gender concepts, however, may effectively decrease the salience and accessibility of gender labels because children can develop subtypes of individuals within gender groups (e.g., masculine girls) that have more predictive value than either the label or the concept alone.

To understand how children make social judgments, developmental researchers need to consider both the predictive value of information as well as specific cognitive constraints that may limit its use even when it has diagnostic value. As children get older, the range of gender-related information with diagnostic value increases. Categorical information, at least in the case of gender, also remains diagnostic but may be outweighed by more diagnostic individuating information.

Summary

In two studies, we investigated developmental changes in the complexity of gender stereotypes. As children grow older, their ste-

reotypes become increasingly elaborated as more associative links form within and between the content domains traditionally associated with gender groups. Potentially, these extensive associations provide cognitively economical, although often inaccurate, ways to process social information. We must remember, however, that having stereotype knowledge does not guarantee its use. By adulthood, we all have learned cultural gender beliefs, and yet we do not always use these beliefs to make judgments. There is more to using gender stereotypes than just having gender-related associations; for example, personal values or the salience of gender also influence whether we access or ignore our gender knowledge base. Nonetheless, it is important to understand more fully how and when children come to acquire the complex set of associations that our culture deems relevant to gender.

Appendix A

Toys Used in Study 1

Masculine	Feminine
truck ^a	doll clothes ^a
army tank ^a	purse and comb set ^a
train engine ^b	sewing machine ^b
cars ^b	dolls ^b
motorbike ^a	makeup kit ^a
airplane	tea set with tray ^a
G.I. Joe soldier ^a	baby doll and crib ^a
tool kit ^a	iron and ironing board
baseball	dollhouse

^a These toys were used as cue items.

^b These toys were used as response items.

Appendix B

Items Used in Study 2

	Masculine Items	Feminine Items
Traits.....	gets into fights (aggressive) is a strong person (strong) ^a says bad words (coarse)	cries a lot (emotional) always says "thank you" (appreciative) ^a is a shy person (meek, mild)
Appearance.....	suit shirt and tie football shirt and trousers ^a	blouse and skirt skirt ^a dress
Occupations.....	construction worker ^a stockbroker (works with money) plumber	nurse ^a hairdresser seamstress (sews clothes)
Toys.....	truck airplane tool kit ^a	baby doll and crib makeup kit Barbie doll ^a

^a These items were used as cues.

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Traditionality of Children's Interests as Related to Their Parents' Gender Stereotypes and Traditionality of Occupations¹

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This study tested the common hypothesis that parents' gender stereotypes, maternal employment status, and the traditionality of parents' occupations, are associated with the traditionality of children's vocational interests. The traditionality of preschool children's (n = 113) interests was examined by an instrument developed for the current study. Parents were administered the Attitudes toward Women Scale, and traditionality of their occupations was assessed. Only the traditionality of the mothers' occupations significantly correlated with the traditionality of the interests of both boys and girls. Other variables tested, as well as their interactions, were not found to show such relationships. The results were discussed in terms of the function of the role model in gender identity development and vocational schema modification.

Gender stereotypes have been at the center of social science inquiry for years, especially in the last two decades (Deaux, 1976; Basow, 1986), as women's liberation movements rose to the fore. A major aspect of gender stereotypes is the gender difference in vocational interests and career choices. Many variables have been thought to explain or to correlate with the gender-typing of career related variables. Researchers have studied demographic and sociological variables such as socioeconomic status, level of education, origin religiosity, and cultural norms (e.g., Frost & Diamond, 1979; Greenfield Greiner, & Wood, 1980; Kanter, 1977). Other scientists have concentrated

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on psychological variables that may play a role during the socialization process in influencing the development of career related gender stereotypes. These variables include gender-typed toys and games (e.g., Miller, 1987; Roopnarine, 1986; Unger, 1982), mass media (e.g., Freuh & McGhee, 1975; Sternglanz & Serbin, 1974), school (e.g., Cherry, 1975; Houston & Carpenter, 1985; Saario, Jacklin, & Tittle, 1973), and peers (e.g., Emmerich & Shepard, 1984; Serbin, Connor, Burchardt, & Citron, 1979). These socialization agents have been thought to modify various cognitive and personality processes—such as self-concept, fear of success, or achievement motivation—which themselves affect women's and men's acquisition of sex roles and stereotyping (or traditionality) of occupational interests and career choice (Betz & Fitzgerald, 1987; Farmer, 1985; Fassinger, 1985).

One factor that has been at the center of researchers' concern for years is the influence of parents on their children's gender-role stereotyping and consequent gender-typed interests and vocational choice. This attention stems from the belief that gender-typing is a developmental process that starts early in life and is affected by close social model and authorities in the family (Bloch, 1987; Huston, 1983; Huston & Carpenter, 1985). Gender-typing is probably an inseparable part of gender identity development in early and middle childhood (Stangor & Ruble, 1987), although some researchers (e.g., Berndt & Heller, 1986) found no evidence of gender-stereotype understanding in kindergartners. Several theoretical approaches, including psychoanalytic, behavioral, social learning, and cognitive-developmental, have attempted to explain the mechanisms of gender identity development (see reviews by Katz, 1979, 1986; Orlofsky, 1980; Spence, 1984a, 1984b). Gender schema theory (Bem, 1981), and more general cognitive theory (cf. Bandura, 1986), also emphasize the function of parents as cardinal role models in gender identity development and in the parallel development of gender-typing. Bem (1981, 1984) maintains that sex typing derives from gender-schematic processing of dominant and relevant cultural definitions of "maleness" and "femaleness". According to Bem, gender identity and sex typing are mediated by the child's cognitive processes, which are assimilated into the child's self-concept along with the gender schema learned from cultural, environmental, and societal cues. Related approaches (e.g., Martin & Halverson, 1981) have also emphasized cognitive processes in gender-role acquisition in child development. Katz (1987) summarized the accumulated knowledge and theorized on parental and family inputs to their children's gender schemata development. She identified a number of variables that had been consistently found to be related to the variability of the development of gender schemata. These variables might be categorized into distal (i.e., structural) and proximal (i.e., socialization processes) dimensions, and thus present a possible elaboration of the more specific social learning model.

It may be assumed, following the various theoretical formulations and research evidence cited above, that parents are active models for their children and communicate to them relevant gender development attitudes and example behaviors. Children observe and absorb these messages through accidental exposure or planned instruction, and the messages are included in the cognitive gender schema developmental process.

A number of studies have concentrated around the *social* dimension of occupational stereotyping, that is, the development and correlates of children's beliefs concerning the "gender suitability" of occupations (e.g., Blaske, 1984; Garrett, Ein, & Tremaine, 1977; Rosenthal & Chapman, 1982). Less research has attended the *personal* dimension of occupational stereotyping, that is, the development of gender stereotypes within children's own attractions to and interests in occupations, as related to the above social dimension and other relevant variables (e.g., Peterson & McDonald, 1980). This avoidance may be explained by the simple fact that vocational interests are very unstable under the age of 17 or 18 (cf. Hansen, 1984). It seems important, however, to study the stereotyping factor also at the child's development of interests process in order to better understand the construction of stereotyped and gender-dependent vocational interests. Moreover, it may be with much importance to examine various developmental influences from relatively early age and follow their developmental track.

Cognitive processes have also been thought to play a major role in the development of vocational interest (Barak, 1981; Barak, Librowsky, & Shiloh, 1989). According to Barak's model, individuals develop interests which represent the product of three major cognitive determinants—perceived abilities, expected success, and anticipated satisfaction—which are formed by numerous active cognitive mechanisms (e.g., storage in memory, perception attribution) which process actual or fantasized experiences. This conceptualization is similar to that of the social learning approach to career development (Krumboltz, 1979) and to the social learning view of the determination of intrinsic motivation (Bandura, 1982). Both approaches contend that cognitive processes relevant to vocational contexts are highly influenced by role models such as parents. Since parents function as major role models for gender identity and gender stereotyping, they may significantly contribute to the creation of a distorted (or biased) vocational self-schema. That is, the cognitive determinants of interests may be affected both by parents' general attitudes toward gender role, and by their gender role related modeling behaviors.

Research evidence has underlined the importance of parents' involvement in fostering career development (e.g., Palmer & Cochran, 1988) and the influence of family characteristics on career aspirations (e.g., Sandberg, Ehrhardt, Mellins, Ince, & Meyer-Bahlburg, 1987). Other studies (e.g., Ne

meyer, Metzler, & Bowman, 1988) have provided evidence for the effects of gender role socialization on cognitive style and related vocational structures and career decision-making. Katz and Boswell (1986) found that parents' attitudes had significant effects on their children's traditionality of gender roles. Moreover, these investigators found that children's perceptions of parents' attitudes was the most significant predictor in explaining gender-linked attitudes and behaviors.

The current study investigated the relationships between parents' gender stereotyping (attitudes), maternal employment status, and the traditionality of parents' occupations (behaviors) on the one hand, and the traditionality of children's vocational interests on the other. In accord with theories that ascribe a dominant role to parents in providing modeling behaviors and to the related findings, it was hypothesized that children's patterns of interests were positively related to the traditionality of their parents' attitudes and behaviors. Specifically, it was hypothesized that low gender-stereotyped parental attitudes concerning women's and men's rights and roles, the mother's employment on a job (versus housewife), and low gender-traditional parental occupations, would be related to less gender-traditional vocational interests in the child. These hypotheses applied both to boys and girls, and to the impact of both fathers and mothers.

METHOD

Participants

One hundred and thirteen children who attended four preschools located in a middle sized city participated in the study. There were 66 girls and 47 boys, ranging in age from 5.5 to 6.5 years old. All the children who attended these schools at the time the study was conducted participated in the study with parental consent.

All the 113 mothers and 106 of the fathers participated in the study as well. Of the seven missing fathers, two were abroad for an extended period, two were divorced and had no contact with their children, two refused to cooperate, and one had died. The sample thus represents a very low refusal rate of 0% of the mothers and 1.8% of the fathers. All the 106 participating fathers were married to 106 of the 113 children's mothers. The parents represented a heterogeneous sample of educational level (average of 12 years for both genders), type of job (including a wide variety of service, technical, scientific, artistic, business, and administrative professions), level of job (including professional, managerial, sem-professional, and skilled workers), and age ($M = 34.5$, $SD = 6.6$ for fathers; $M = 32.2$, $SD = 5.8$ for mothers).

Among the 113 mothers, 70 (62%) held jobs, whereas 43 (38%) were not employed outside the home. All 106 fathers held jobs.

Instruments

The study assessed the relationships and included measures of parents' gender stereotyping and the traditionality of their occupations (predictors) on the traditionality of their children's vocational interests (criterion).

Parents' Gender Stereotyping. This variable was measured by the short version of the Attitudes toward Women Scale (AWS; Spence & Helmreich, 1972; Spence, Helmreich, & Stapp, 1973). The AWS is a measure of gender-role attitudes, containing a list of 25 statements regarding various rights and roles of women. Participants were asked to respond to each item on a 4-point scale. Item responses were added to a total score. The higher the score (ranging from 0 to 75) the lower the gender role stereotyping. Spence et al. (1973) provided support for the reliability and validity of the AWS. In the current study, mothers had a mean of 60.08 and a standard deviation of 7.07, a fathers had a mean of 55.08 and a standard deviation of 10.83. These data are similar to those reported on other adult samples, and depict sufficient distribution for statistical analyses.

Traditionality of Parents' Occupations. In order to develop a measure of traditionality of parents' occupations, the researchers constructed a list containing all the parents' occupational titles. The 219 parents were engaged in 75 different lines of work. The list was then given to a random sample of 15 female and 15 male adults, who varied in age, education, occupation, and socioeconomic status. They were asked to rate each occupation on a 7-point scale, according to the occupation's "suitability" for men or women. A score of 1 was assigned to occupations rated as "suited only men," and a score of 7 was assigned to occupations rated as "suited only women." For each occupational title the mean rating was calculated, yielding the traditionality score of that occupation; the higher the score, the higher the feminine stereotype of the occupation. To eliminate the decimal point, the scores were multiplied by 10. The occupation traditionality score could thus range from a low of 10 to a high of 70. The actual scores in the current study ranged from 13 to 69. For instance, a refrigerator technician was rated 16 (an example of a masculine stereotyped occupation), a physical education teacher was rated 39 (an example of a neutral occupation), and a cosmetician was rated 69 (an example of a feminine stereotyped occupation). This technique has been effectively used in previous research (e.g., Barak, Golan, & Fisher, 1988). The mean occupation traditionality scores in the current study were 58.60 ($SD = 12.25$) and 25.60 ($SD = 9.72$), for women and men, respectively.

Traditionality of Children's Vocational Interests. A pilot study was conducted to develop a measure of the traditionality of children's vocational interests. Fifteen occupational titles and 15 equivalent vocational activities were chosen in accordance with previous research on children's gender stereotypes of occupations (e.g., Selkow, 1984; Tremine & Schau, 1979) as "masculine," "feminine," or "neutral." Each occupation and activity was given a title (e.g., "a gardener" for an occupation; "to dance on a stage" for an activity). Each occupation described a person engaged in a certain line of work and each activity described the main *purpose* of an occupation. The people in each occupation and performing in each activity were separately drawn on 14 × 20 cm. cards by a professional artist. Each occupation card presented a person doing a job, while each activity card presented, in addition, the tools and objects associated with the occupation. All the drawings were drawn twice: in one version the figure was a man, in the other a woman. No other details in the parallel drawings differed, other than the person's hair style (longer hair for women), body figure (breasts for women) and clothes (pants for men, dresses for women). The test was first administered to the pilot study sample. Each the children was tested individually by the same research assistant, who was blind to the research purposes and hypotheses. Each child was instructed to state aloud his or her interest in working or in being engaged in each of the occupations or activities on a 4-point scale, ranging from 1 for not interested to 4 for very interested. The cards were shown to the participants in random order and, simultaneously, the assistant stated the title of the card aloud. Since almost all children tended to the extremes of the scale (i.e., "want very much," "don't want"), thier responses were scored dichotomously, 1 or 0. A series of *t*-tests was conducted to determine the items that best differentiated the responses of boys and girls. Of the 30 initial items six—four occupations and two activities—were chosen as stereotypically masculine and six as feminine. Each item was worth one point. The traditionality score was the sum of all the "gender suitable" items the participant chose minus the items "suited" to the opposite gender. The traditionality score could thus range from a low of -6 (if a child showed interest only in items "suitable" for the other gender, and no interest at all in items "suitable" for his or her own gender) to +6 (if a child manifested interest only in items "suitable" for his or her gender and rejected all item "suitable" for the other gender). The actual range for both genders in the research sample was from -2 to +6. Boys scored an average of 2.12 ($SD = 1.94$), and girls yielded an average of 2.33 ($SD = 1.80$). Kuder-Richardson 20 reliability was calculated on a children's responses and revealed a coefficient of .76. These data represented reasonably distributed and reliable scores which allowed statistical analyses.

Procedure

Each child's interest were assessed during regular school hours in a quiet room. The tester made sure that the child understood the task instructions and used several alternative words (such as "work," "occupation," "job," or "interested in" "attracted to," "wants to," etc.) to phrase and rephrase the questions. occupations containing gender references adapted to the gender of each subject (for instance, "fisherman" to a boy, "fisherwoman" to a girl) to eliminate verbal confounding effects. The occupational items were administered before the activity items, but within each group the order of the items was random.

Following the children tests, the parents' data were collected. The parents filled out the AWS at home, and gave their job titles and duties, as well as biographic data.

RESULTS

Pearson correlations were calculated between the traditionality of children's vocational interests and each of their parents' AWS. If parents' attitudes regarding women's rights and roles were related to the traditionality of thier children's attitudes, we would expect negative correlations between these two variables. The correlations found are presented in Table I. As may be seen, the correlations were not found to be significant, either for the boys, girls, or the total sample. Nor were the multiple correlations of both parents' AWS together significantly correlated with traditionality of their children's vocational interests.

Table I. Correlations Between Traditionality of Children's Interests and Parents' Attitudes Toward Women Scale Scores^a

Parents	Children		
	Boys	Girls	Total
Fathers	-.17 (42)	.01 (57)	-.07 (99)
Mothers	.05 (46)	.00 (63)	.03 (109)
Multiple	.20 (42)	.01 (57)	.08 (99)

^aDecimals omitted. Number of cases in parentheses. None of the correlations is statistically significant.

The mean traditionality scores of the children's vocational interests were then evaluated in the light of their mother's employment status. The traditionality scores of sons of housewives ($M = 2.66$; $SD = 1.68$; $n = 18$) did not differ significantly ($t = 1.59$; $p > .05$) from the scores of sons of mothers who held jobs ($M = 1.79$; $SD = 2.04$; $n = 29$). Similarly, the traditionality scores of the interests of housewives' daughters ($M = 2.04$, $SD = 1.67$; $n = 25$) did not differ significantly ($t = -1.06$; $p > .05$) from those of daughters of mothers who held jobs ($M = 2.51$; $SD = 1.89$; $n = 41$).

Table II presents the Pearson correlations between the traditionality of children's vocational interests and the traditionality of their parents' occupations. As can be seen, while the correlations between the traditionality of fathers' occupations with that of their children (both boys and girls) were low and insignificant, the correlations between the traditionality of mothers' occupations and that of both their sons and daughters were found to be significant. The multiple correlations of fathers and mothers together as they relate to their children were also found to be significant but, as may be seen, most of the variance can be attributed to the mothers' correlations.

Further analyses were done in order to test the possible interaction effect of the independent variables and children's traditionality of interests, for both parents' and both children's genders. For these analyses, parents' AWS scores and occupation traditionality scores were used as independent variables (for mothers and fathers separately) and several ANOVAs were conducted, using the traditionality of children's interests as the dependent variable. In all these analyses, there were main effects results reflecting the correlations reported above, while none of the interactions were found to be significant. In addition, a stepwise regression analysis was conducted to examine the contribution of each of the independent variables and some

Table II. Correlations Between Traditionality of Children's Interests and Traditionality Level of Parent's Occupations^a

Parents	Children		
	Boys	Girls	Total
Fathers	.16 (45)	-.08 (61)	.04 (106)
Mothers	.31 ^b (47)	.20 ^b (66)	.25 ^c (113)
Multiple	.36 ^b (45)	.24 ^b (61)	.25 ^c (106)

^aDecimals omitted. Number of cases in parentheses. Correlation coefficients of fathers were reversed to enable better comparison.

^b $p < .05$.

^c $p < .01$.

demographic variables on the children's traditionality of interests. The results of this analysis are presented in Table III. As may be easily seen, and consistent with the previous statistical analyses, only mother's traditionality of occupations significantly entered the regression, while all other variables yielded no meaningful relationships.

DISCUSSION

The results of this study partially supported the hypotheses that the traditionality of children's vocational interests is associated to the gender-related traditionality of their parents' gender-role attitudes and occupational behaviors. On the one hand, neither fathers' and mothers' attitudes concerning gender roles, as measured by the AWS, were correlated with the traditionality of their children's vocational interests. Nor was the mother's work status (housewife or job) related to the traditionality of her son's and daughter's interests. On the other hand, the traditionality of the mother's (thought not the father's) occupation did have a significant relationship to the traditionality of both her son's and daughter's interests. The significant correlations found indeed counted for a relatively small portion of the variance, but this is expected, as noted earlier, given the multiple sources which normally influence children's attitudes.

These findings suggest that parents' general attitudes concerning gender stereotyping, as measured by the AWS, have little if any association with their children's conceptions. This may be because the parents might not express their attitudes concerning women's rights and roles in their behavior or communicate with them to the children. This explanation is consistent with Baumrind's (1982) and Katz and Boswell's (1986) findings, as well as with Spence's (1982) comment, that parents' socialization practices are more

Table III. Stepwise Regression Analysis of the Total Sample of Traditionality of Children's Interests

Variable	<i>r</i>	<i>R</i>	<i>R</i> ²	<i>df</i>	<i>F</i>	<i>p</i>
Mother occupation	.25	.25	.06	1; 104	7.32	<.01
Mother education	-.09	.25	.06	1; 103	1.24	ns
Father AWS	-.07	.26	.07	1; 102	0.90	ns
Father occupation	.04	.26	.07	1; 101	0.78	ns
Mother AWS	.03	.26	.07	1; 100	0.43	ns
Father education	-.04	.26	.07	1; 99	0.48	ns
Socioeconomic status	-.05	.27	.07	1; 98	0.65	ns
Child gender						
(1 = boys; 2 = girls)	.02	.27	.07	1; 97	0.25	ns

significant than their attitudes or personality characteristics in influencing their children's attitudes and behaviors. This finding, together with other findings, generally suggests that distal variables, as opposed to proximal variables (Katz, 1987), may have greater importance in influencing children's gender schemata development. Other explanations for the lack of relationships between both fathers' and mothers' gender stereotyping beliefs and their children's (of either gender) stereotyping vocational interests might be the moderating effects of certain variables, such as attitudes of other significant attitudinal models (e.g., teachers), or the congruence level of father's versus mother's attitudes in a given family. These hypotheses should be tested in further research.

The finding that the mother's employment (as opposed to being a housewife) does not in and of itself influence her child's traditionality of vocational interests, may be explained by the greater influence of the *nature* of the job itself, that is, how traditional the occupation is. This finding is consistent with most previous research which investigated the issue (e.g., Colangelo, Rosenthal, & Dettmann, 1984; Seegmiller, 1980), with the exception of that of Selkow (1984).

The traditionality of the mother's occupation was indeed related to the traditionality of her child's (of either gender) interests. That is, children of mothers who were engaged in occupations not traditionally feminine tended to show fewer gender-typed vocational interests. The traditionality of the father's occupation, however, did not correlate with the traditionality of his child's interests. This finding accords with those of Katz and Boswell (1986) and of Selkow (1984). One can only speculate as to why mothers' occupations have a more significant influence than those of fathers. It may be that mothers *generally* have more influence over their children than fathers since, despite changes in family roles, most of the daily care of children remains the responsibility of mothers while fathers are involved in more instrumental tasks (Lewis, 1986; Lewis & O'Brien, 1987; Youniss & Smaller, 1985). In another explanation, it may be that in this specific preschool age children, the subjects were more influenced by their mothers' behavior than their fathers' (Lewis, 1986; McCartney & Phillips, 1988). This difference may change as they grow up, with or without interaction with the child's gender. Another possible explanation for the differential impact of fathers' and mothers' traditionality of occupations may have to do with the idea that since it is less common for women to be engaged in masculine-typed occupations than for men to be engaged in feminine-typed occupations (Betz & Fitzgerald, 1987), the mother's masculine-typed occupation is more salient and attracts attention, even of little children. This difference in cognitive salience

may induce differential attentional processes toward the male and female parents, which may in turn account for the differential modeling value (Bandura, 1986). These possibilities all need to be empirically tested in further research. It seems, however, in a preliminary examination of the above third explanation, using the current data, that indeed there was a considerable difference in mothers versus fathers stereotyping level of jobs held on the children: several mothers who were employed as managers had less stereotyped children (of either gender) than mothers who were employed as secretaries. In contrast, there was no difference in stereotyping level of interests of children of fathers who were employed as school teachers versus those who were employed as engineers.

As stated earlier, the various approaches aimed at explaining gender identity development and gender-typing are similar in focusing on parents as cardinal models and influences in this process. In partially supporting this view, the results of this study may contribute to the understanding of the development of gender-linked differentiation of interests. The current findings suggest that the variability in gender-typed interests is an outgrowth of relevant (possibly distorted) cognitive contents. That is, the modification of stereotyped interests may be a function of distal factors (Katz, 1987), not necessarily representing *relevant* or *valid* input variables for the development of interests which are consistent with one's abilities or achievements. The findings support the view that a child's interest in an occupation or an activity may represent only his or her cognitively modified (and distorted) occupational conceptions and consequent vocationally related self-schema (Barak, Librowsky & Shiloh, 1989).

Vocational interests develop through childhood and adolescence and are known to be unstable until early adulthood (cf. Hansen, 1984). The present study is thus not informative as to future career development, interests, or occupational choice. The results of this study relate mainly to the *process* of interests' development, rather than to the interests' specific *contents*. The contents of interests, which contain facets such as level of aspirations, objects of engagement (e.g., people, data) or type of employment, may be related to various socialization experiences. This study does show, however, how a crucial and socially relevant dimension of interests (and of personality in general), gender-related traditionality, is related to the mother as a dominant source of a child's career development. It should be kept in mind, however, that the findings reported here are correlational in nature, and further longitudinal investigations are needed to substantiate causal relationships and related conclusions, as well as to better understand the role of the mother as a model for sex-role modification.

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Brief Report

Is There a Sex Difference in Lateralization for Processing of Humorous Materials?¹

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Leventhal and Cupchik (1976) reported an unpublished finding that women rate items funnier with left-ear input, while men give higher ratings with right-ear input. This finding, widely cited in the literature, has sometime been quoted as evidence for a biological basis for sex differences in humor appreciation, in particular, and in information processing, in general. However, the effect has apparently never been replicated. In this study, 12 subjects rated the funniness of 35 monaurally-presented comedy excerpts with half of the subjects receiving input over each ear. Although the experiment had several features intended to maximize replicability, the reported sex difference was not found. While failure to find an effect in a particular case is not definitive, it is troubling to see such widespread citation of an unpublished and apparently unreplicated effect and to see rather extreme conclusions based on it receive serious consideration in the literature.

Leventhal and his associates (Leventhal & Cupchik, 1976; Leventhal & Safe, 1977) have proposed a theory of humor judgment that focuses, to a large extent, on gender differences. They suggest that response to humor is based on two types of processing, an "objective" mode which is analytic and stimulus- or content-bound, and an "emotional" mode which is holistic and

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Cann & Gittus top 5 sex stereotyped:

- 1) Police officer
- * 2) truck driver
- 3) lawyer
- * 4) mechanic
- * 5) nurse

men in agreement w/:

- 1) truck driver
- 2) mechanic
- 3) nurse

disagreement:

- 1) Police officer
 - 2) lawyer
- } only two

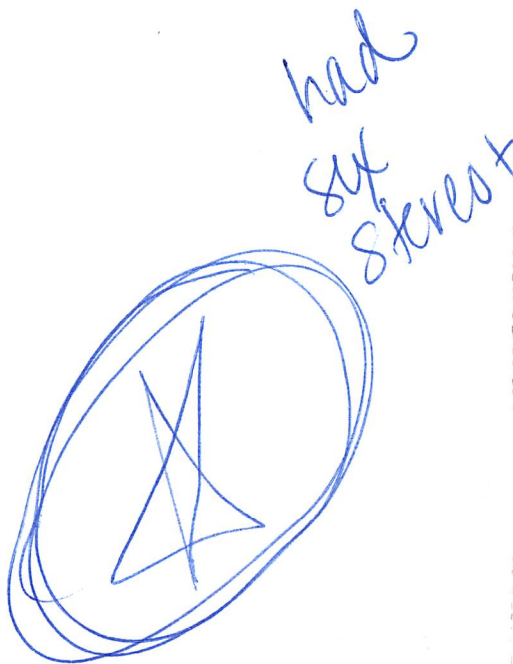
* still sex stereotypes, more
liberalization since
Cann & Gittus exp. in
1983

% labels comparison * male choice

	Canan & Beth's	Alan's	Does
* doc	89	25	64.2
* Police officer	100	39	53.5
* Truck driver	100	82	7.1
* mechanic	98	92	7.1
* lawyer	83	42	46.4
* Boss	98	53	42.8
* Banker	30	14.2	71.4
* Principal	89	50	50
was * Secretary	11	14.2	28.5
* Teacher	6	17.8	71.4
worse * Dancer	11	3.5	50
worse * Model	17	7.1	10.7
worse * Librarian	11	3.5	60.7
* Nurse	4	3.5	10.7
Cashier	36	32.1	46.4
worse Cook	32	14.2	39.2

* = sex stereotyped
★ = liberalization

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It is well established that 5-year-old children possess an articulate knowledge of the sex-role stereotypes characteristic of adults in our culture. Williams, Bennett, and Best (1975), for example, found that sex-stereotyping of adjective traits was significant in kindergarten children, and increased among second and fourth graders, who were not different from each other. Less well-established is the age at which this knowledge first appears, and the age trends by which it expands. In a cross-sectional study, Masters and Wilkenson (1976) found that 4-year-olds could correctly sex-categorize various toys; and a separate sample of 7- and 8-year-olds could do better. Thompson (1975) assessed the sex-stereotyping of numerous household items in different samples of children aged 2, 2.5, and 3 years. He found evidence of significant stereotyping in the youngest group, which increased with age. However, both studies demonstrated accurate stereotyping of items rather than traits; for the latter, as Maccoby and Jacklin (1974) have pointed out, the evidence of differential parental socialization is considerably clearer. In contrast, most studies of adolescent and adult sex-role stereotypes concern traits (e.g., Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968). The only evidence of which we are aware demonstrating trait stereotyping earlier than age 5 is provided by Kuhn, Nash, and Bruckner (1978). They found significant gender categorizing of adjectival traits in two groups of children aged 2-6 (2 years, 6 months) to 2-11, and 3-0 to 3-11. However, the latter group did not possess greater stereotypic knowledge than the former, which might have been expected from a learning perspective.

The purpose of the present study was to explore further the presence and development of adjective trait sex-role stereotypes in young children aged 3 to 5 years. Four groups of children (3-0 to 3-5, 3-6 to 3-11, 4-0 to 4-5, and 4-6 to 4-11) were asked to gender-classify a list of behavioral traits (e.g., strong, gentle) modified from that used by Williams et al. (1975). To provide longitudinal evidence for the development of sex-stereotypic knowledge, the same children were retested six months later. We might note that the present study differs from that of Kuhn et al. (1978) in three important regards: (1) They used two cross-sectional groups encompassing one year each to examine age trends; we used four cross-sectional groups of six months, and then retested to examine longitudinal development as well. (2) Half of their sample was university faculty children, who were therefore somewhat more intellectually advanced than the population as a whole; our children were of average intellect. And (3) they eliminated children who chose their own sex for all traits from the analytic sample, a procedure which obviously inflates the percentage of subjects showing correct stereotypes; we did not. Our hypothesis is that *sex-stereotypic knowledge increases linearly with age, and each age group increases in such knowledge over time.*

METHOD

Subjects

Subjects were 100 children recruited from four predominantly White middle-class day care centers and one group of children at home with their mothers.³ Six subjects were eliminated from the analyses because age information was unattainable; 8 additional children were removed from the sample when they could not be retested within the necessary time interval. The resulting sample of 86 children ranged in age from 2 years, 9 months to 5 years, 8 months (2 children were under 3 years of age; 1 was older than 5 years). Four age groups were established: under 3.5 years ($n = 12$, $\bar{X} = 3.17$ years), 3.5-4.0 years ($n = 23$, $\bar{X} = 3.78$ years), 4.0-4.5 years ($n = 28$, $\bar{X} = 4.24$ years), and over 4.5 years ($n = 23$, $\bar{X} = 4.75$ years).

Procedures

All subjects were tested individually. Eleven testers were trained with different children until we were satisfied that the testers' ability to establish rapport and their testing procedures were uniform. Of these testers, 7 were female, and 4 were male; all were undergraduate students. (No sex of tester main effects or interactions emerged; hence, this variable will not be discussed further).

Each tester was assigned to a particular day care center. An initial contact day was spent in the classroom without testing to acclimate the children to the tester. On later visits, the day care teacher and tester asked each child if s/he would like to play a "picture game" with the tester in the corner of the room. All children agreed. The Peabody Picture Vocabulary Test was administered to all subjects first. Testing proceeded until a child had missed six of eight consecutive items. Neutral verbal feedback ("okay," "uh-huh," etc.) was given after each response. After the test score was established, a few success items were provided. Of course, these were not included in the Peabody score.

The Sex Stereotype Measure, a modification of that developed by Williams et al. (1975), was then given (mSSM). The mSSM was introduced by telling the child "Now we're going to play another game." Each item was read aloud to the child, who was asked to point to the appropriate silhouette of an adult female or

³There were no reliable main effects or interactions due to the day care center in which children were enrolled, or to the day care-home distinction. Therefore this variable was deleted from the analyses and will not be discussed further.

male figure. So that various poses could be presented and order could be counter-balanced, a different picture accompanied each question. Both female and male traits had the female figure in the left- and right-hand position an equal number of times. Neutral verbal feedback followed each of the 28 items. Following the entire task, all children were praised for their performance, thanked, and returned to the classroom group.

Follow-up testing occurred 20-31 weeks after the initial testing, so that mean ages of the four age groups were now 3.65, 4.30, 4.76, and 5.25 years. All procedures were identical, except that the tester did not observe an acclimation day and a few Peabody items were administered for warm-up purposes only. To eliminate potential biases, a different tester, blind to the child's initial score, conducted the second assessment.

The Modified Sex Stereotype Measure

The sex-role questionnaire used in this study consisted of 28 items selected from the 32-item Sex Stereotype Measure II developed by Williams et al. (1975). The following 4 items were deleted because we felt they were too conceptually difficult for young children: flirts, stern, self-assured, and dependent. The wording of some other items was simplified to be clear to young children, resulting in a list of 14 masculine and 14 feminine adjectives, randomly arranged. The masculine traits were, in order of presentation, gets into fights, adventurous, gets along by themselves, messy, owns a big store, makes others laugh, mean, not excitable, brags, says bad words, talks loudly, makes most of the rules, sits and thinks about what to do, and strong. The feminine characteristics were cries a lot, appreciative, weak, talkative, changes their mind, gentle, spends money on silly things, fussy, quiet and afraid, whiny, excitable, loving, feels sorry when a kitten is hurt, and good mannered. (See Williams et al., 1975, for validation of the sex-typing of these traits.) Three of these items had to be deleted when their meaning with regard to sex-typing was found to be quite different for young children than it was for Williams et al.'s adult judges. These items were spends money on silly things, not excitable, and makes most of the rules. (It should be noted that total score results are the same if these items are included, however.) For each child, a sex-typing score was computed by summing the total number of correct responses. The maximum score possible was 25; chance responding or choosing one sex consistently would yield a mean score of 12.5.

Each trait was read to the child embedded in short sentences, following the format of Williams et al. (1975). For example, item 1 stated: "One of these people cries when something good happens and when everything goes wrong. Which person cries a lot?" The child's task was to point to one of the two black silhouettes on an 8½ × 11" card held by the experimenter. Each item corresponded to a different card, so that the right-left position of the male and

female figure, as well as their pose, could be controlled. The cards were shuffled between administrations, so that each child saw different traits paired with different silhouettes. The testers recorded all responses.

RESULTS

Results were analyzed using a 4 × 2 × 2 (Age Group × Sex × Testing Time) analysis of variance, with the first two variables serving as between-group factors and the latter as a repeated measure. The age groups showed the predicted linear trend of increasingly correct stereotyping with advancing age ($F(1, 76) = 6.18, p < .02$). In contrast, the remaining (quadratic and cubic) components of the age group differences were not significant ($F(2, 76) = 1.22, ns$). Furthermore, the entire sample of subjects showed a significant increase in stereotyping from Time 1 to Time 2 ($F(1, 76) = 7.57, p < .01$). Simple effects analyses (Winer, 1971) revealed that the youngest group of children showed no improvement over chance ($F(1, 76) = .26, ns$), while the second, third, and oldest groups gained in the expected directions, although two of these differences only approached significance ($F(1, 76) = 3.46, p < .07$; $F(1, 76) = 4.22, p < .05$; $F(1, 76) = 2.21, p < .15$, respectively). Therefore, both the cross-sectional and longitudinal aspects of our hypothesis appear to be supported. Means for these analyses are shown in Table I.

Sex revealed no significant main effects or interactions in this analysis, although there was a modest tendency for females to show greater sex-stereotyping than males in both testings (females \bar{X} s = 13.9, 14.9; male \bar{X} s = 13.1, 14.4; $F(1, 76) = 2.61, p < .12$). However, as sex did not interact either with age or the repeated measure (all F s < 1.00, ns), the age trends reported above are not sex dependent.

Table II shows the percentage of subjects correctly gender-classifying traits on which significant ($p < .05$) sex-role stereotype knowledge was shown during either testing period. Four characteristics (cries a lot, cruel, quiet and afraid, and strong) provided evidence of significant stereotyping at the first testing. Three of these increased in the second testing, while the fourth diminished

Table I. Age Changes in Total Stereotyping Score^a

	Age at initial testing				All subjects
	3.0-3.5	3.5-4.0	4.0-4.5	4.5-5.0	
Time 1	12.8	13.4	13.8	13.8	13.6
Time 2	12.3	14.8	15.2	15.0	14.7

^aChance responding would produce a score of 12.5.

we feel appropriate

Table II. Percent of Subjects Showing Correct Sex-Stereotyping of Traits

Items	Testing	All subjects	Age at initial testing			
			3.0-3.5	3.5-4.0	4.0-4.5	4.5-5.0
1. Cries a lot	1	62.8	66.7	65.2	60.7	60.9
2. Gets into fights	2	74.4	58.3	82.6	64.3	87.0
	1	54.7				
4. Thankful	2	79.1	75.0	73.9	78.6	87.0
	1	55.8				
5. Weak	2	62.8	75.0	52.2	67.9	60.9
	1	51.2				
6. Self-reliant	2	62.8	66.7	69.6	57.1	60.9
	1	51.2				
12. Gentle	2	62.8	50.0	65.2	67.9	60.9
	1	54.1				
14. Cruel	2	61.6	33.3	65.2	67.9	65.2
	1	65.9	45.5	73.9	67.9	65.2
17. Quiet and afraid	2	60.5	41.7	65.2	57.1	69.6
	1	60.7	72.7	56.6	57.1	63.6
21. Talks loudly	2	69.8	50.0	73.9	78.6	65.2
	1	58.3				
23. Loving	2	62.8	50.0	65.2	67.9	60.9
	1	53.6				
27. Strong	2	66.3	41.7	65.2	71.4	73.9
	1	65.5	36.4	73.9	67.9	68.2
28. Good manners	2	70.9	41.7	78.3	67.9	82.6
	1	50.0				
	2	60.5	58.3	52.2	64.3	65.2

^a Age breakdowns are presented only when the overall percent is significant at $p < .05$ (critical percent is 60.5%). Chance responding = 50.0%.

but remained significant. Eight additional traits were significantly sex-typed in the second testing (gets into fights, thankful, weak, self-reliant, gentle, talks loudly, loving, and good manners). Inspection of the Table II values indicates that most of the increase seemed to occur between the youngest and second age group in both testing sessions, implying that the bulk of initial learning transpires between the ages of 3.5 and 4.5 years.

Regarding the sex-typing of these traits, the significantly stereotyped dimensions were not predominantly characteristic of one gender or the other; 7 were feminine, and 5 were masculine. On the other hand, what modest sex differences there were appeared somewhat stronger for same-sex than opposite-sex characteristics. Females' stereotypic knowledge surpassed that of males for gets into fights, gentle, fussing, feels sorry, changes mind a lot, and good manners. Males knew the sex-typing of adventurous better than females.

Finally, as has been demonstrated in previous research, sex-stereotypic knowledge was related to intellectual ability. Peabody IQ scores were correlated both with Time 1 and with Time 2 mSSM scores ($r(82) = .21, p < .06$, and $r(84) = .23, p < .05$, respectively). Peabody scores were not correlated with the increment in stereotypic knowledge from Time 1 to Time 2 ($r(82) = .05, ns$), indicating that change was not dependent on IQ. However, there was relative consistency over time in the stereotyping scores ($r(82) = .21, p < .06$).

DISCUSSION

To summarize briefly, our hypothesis of increasing knowledge of adult sex-role stereotypes with age was supported. Age trends appeared such that older children, as well as all children as they got older, demonstrated greater gender categorization of various behavioral traits. These results are consistent with earlier reports, such as Kuhn et al. (1978), as well as more revealing of the age intervals during which these cognitions emerge and develop. Although our sample sizes were too small to permit conclusive generalizations, clear evidence of significant stereotypic knowledge across all children appeared in the latter half of the third year of life.

These and related data bolster the crucial supposition of cognitive-developmental theories that knowledge of sex-stereotypes begins to be obtained prior to the attainment of gender constancy and the exhibition of the majority of sex-typed behaviors. The earlier development of the cognitive aspects of sex roles, as opposed to their emotional facets, supports transactional models (e.g., Kohlberg, 1966; Lewis & Weinraub, 1979) that describe children as active processors of the environment who seek rules by which to schematize their observations. If people, and the behaviors with which they are associated, can be classified on the basis of gender, then gender becomes a valuable organizing principle within which later behavior is interpreted and one's own behavior is

selected. Of course, there must be at least a kernel of truth in these stereotypes, if they are to be useful to the child seeking organizing principles and categories. However, since the mere existence of a stereotype often can induce its predicted differences in the manner of a self-fulfilling prophecy (Snyder, Tanke, & Berscheid, 1977), this qualification does not seem much of a problem. One could scarcely argue that prevailing sex-role stereotypes do not describe at least some of the behavior of most of the people, whatever the direction of causality in the kernel of truth. Therefore, children's early knowledge of adult sex-role stereotypes can be seen as part of their adaptation to the social world, achieved by extracting structural rules that describe people's behavior.

The relationship between the cognitive and emotional aspects of sex roles currently maintains its position as one of the more important, and elusive, aspects of children's and adult's gender-related behaviors. This study sheds some light on the early learning of adult sex stereotypes. Future research on how this knowledge develops and relates to the incorporation of sex-linked behavior and attitudes is necessary.

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Psychological Androgyny Sex-Role Ideology as Predictor of Male-Female Interpersonal

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Two studies examined the degree of sex-role ideology desired in their ideal dating partner and 95 females classified according to their ideal partners on the items of the Bem Sex-Role Inventory. The general tenor of predictions, sex-role ideology, between their own and their ideal dating partner did androgynous subjects. However, the results would describe complementarily sex-typed individuals. Actually, all subjects (with the exception of a few) describe ideals who manifested a high degree of such that the male is somewhat more traditional partner and the female somewhat more traditional partner. In Study II, 63 males and 63 females were traditional in their sex-role attitudes also. BSRI. Nearly all traditional males and traditional males exhibited an equal preference for traditional partners. The female attitude group also described androgynous partners. Both described androgynous partners and stereotypes and individual differences in addition to individual differences in individuals' heterosexual attraction as presently defined, does not have life-styles as has been attributed to individuals.

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children's aspirations are guided by the characteristics of the occupations, independent of any recognition of the sex stereotypes that exist.

Results from a number of studies would seem to support the first explanation. For example, Gettys and Cann (1981) presented children ranging in age from 2½ years to 7 years with occupations sex-typed by adults and found that at every age level the children distinguished between the female and the male occupations. Additional findings using a variety of occupations and age ranges lend further support to the notion that children identify many occupations as appropriate for one or the other sex (e.g., Garrett, Ein, & Tremaine, 1977; Shepard & Hess, 1975; Tibbetts, 1975).

A question that is related to the issue of occupational sex stereotyping, but which has not been addressed by the research to date, involves the impact of these stereotypic beliefs on judgments of competency at occupations. Children may recognize that females, not males, are more "appropriately" employed as secretaries, while males, not females, more "appropriately" work as police officers, as reflected in the stereotypes of their adult models, without holding the associated beliefs that one sex is intrinsically better able to perform the occupation. Thus, girls may indicate that a male doll is the doctor, yet still believe that a female is capable of being a better doctor than the male. The important difference is between realizing that few females are doctors and believing that females cannot be good doctors.

The current research examined children's perceptions of relative occupational competence as a function of the sex of the occupation and the sex of the performer. Children were presented with a "male" and a "female" who performed a sex-typed job and were asked to indicate which person would be better in this occupation. If children have fully integrated the adult stereotypes concerning the occupations, differences equivalent to those reported in the research on stereotype recognition should emerge. Developmental changes also will be examined, since researchers have reported increasingly flexible stereotypes (Garrett et al., 1977) and more clearly defined stereotypes (Gettys & Cann, 1981) as a function of age. One possibility is that older children are better able to recognize adult sex stereotypes, but they can also be more flexible in their application of these beliefs.

METHOD

Subjects

A sample of 173 children from grades K, 1 and 2 of a middle-class neighborhood public elementary school was selected from children whose parents

signed consent forms. Four children (3 females and 1 male) were dropped from this initial sample because they did not recognize one or more of the occupations presented. The final sample included 82 females and 87 males, with an age range of 5½ years to 9 years. There were 135 White and 34 Black children.

Materials

Four 33-cm tall adult dolls, two female and two male, were used as stimuli for the children's responses. One male and one female doll were used with each child. The dolls were dressed similarly – the male doll in beige slacks and jacket and the female doll in a beige skirt and jacket.

Eight female sex-typed and eight male sex-typed occupations (see Table II) were selected based upon the ratings of college students in previous research (Panek et al., 1977; Shepard & Hess, 1975; Shinar, 1975). Data sheets were constructed on which the 16 occupations were listed in one of five random orders. The experimenter recorded background information about the child (birthday, age, sex, classroom teacher, etc.) at the top of the sheet, along with information about the dolls used and the positioning of the dolls.

Procedure

Each child was interviewed individually by a 22-year-old White female (JMH). The interviews took place during class time in a quiet corner of the classroom. When the child was seated in the research area, the experimenter pointed to the two dolls and gave the following instructions: "We are going to play a game. I am going to call out some jobs that these two people do, and as I do, I want you to point to the person you think does that job best. Both of these people do each of the jobs that I am going to call out, and there are no right or wrong answers. Do you understand?"

The occupations were presented in the order they appeared on the data sheets. The child was told that "these two people are both _____s, which person do you think is a better _____." The experimenter recorded the child's response, without comment, after each occupation. If a child indicated both dolls, this was recorded and then the child was asked to pick one or the other doll.² When the procedure was completed, the child was asked to keep the game a secret, and then s/he was returned to the class.

²Only 16 of the 2,704 responses (6%) were "both," so the children's choices of the male or female doll were used in the analyses.

single line drawing

*some activities that 2 people do
work in a hospital, do surgery, patient*

What's the name of this person?

RESULTS

The responses were scored by assigning a zero (0) when the male doll was selected, and a one (1) when the female doll was indicated. Separate scores were computed for the "female" and "male" occupations for each child. The scores could range from 0 to 8, with higher scores indicating that the female was perceived as better at the occupations in the category.

A 2 (Sex of Child) X 2 (Sex of Occupation) X 3 (Age of Child) analysis of variance was performed on these data, with Sex of Occupation as a within-subject factor. The sex of occupation main effect, $F(1, 163) = 574.74, p < .0001$, and the sex of occupation X age of child interaction, $F(2, 163) = 7.36, p < .001$, were highly significant. The relevant means are shown in Table I. The children clearly perceived the two occupational categories as sex-typed. The female doll was selected as the "better" performer more often for the "female" occupations. The interaction seems to reflect the increasing sex-typing with increasing age; however, simple effects tests revealed significant differences at each age level, $F_s(1, 163) = 222.92$ at 5½-6½ years, 351.88 at 7-7½ years, 333.58 at 8-9 years; $p_s < .0001$.

The sex of child main effect was the only other significant difference. $F(1, 163) = 5.23, p < .03$. Female children were more likely to select the female doll ($M = 4.120$) than were the male children ($M = 3.875$).

For the separate occupations, the percentages necessary to conclude that the choices differed significantly from chance behavior (50% at the .01 level of significance) are shown, along with the actual percentages, in Table II. The .01 level was used because of the number of comparisons possible and the nature of the within-subjects measure. One male occupation (banker) and one female occupation (cashier) consistently failed to achieve significance across age groups. Banker was the only occupation that produced results in the direction opposite to the predictions.

Table I. Means and Standard Deviations for Sex of Occupation and Sex of Occupation X Age of Child Effects^a

	Age of child			Total sample (n = 169)
	5½-6½ (n = 66)	7-7½ (n = 56)	8-9 (n = 47)	
Male occupation				
Mean	2.26	1.39	1.13	1.66
SD	1.94	1.04	.74	1.48
Female occupation				
Mean	6.02	6.52	6.57	6.35
SD	1.73	1.21	1.41	1.50

^aThe means are based on a possible score of 0 to 8, with 8 indicating that the female doll was selected for all eight occupations.

Table II. Percentage of Children Selecting the Male Doll for Each Occupation^a

	Age of child		
	5½-6½	7-7½	8-9
Male occupations			
Doctor	71	89	89
Police officer	86	91	100
Truck driver	82	96	100
Mechanic	68	89	98
Lawyer	64 ^b	84	83
Boss	80	86	98
Banker	42 ^b	34 ^b	30 ^b
Principal	80	91	89
Critical value	< 65	< 67	< 68
Female occupations			
Secretary	30	16	11
Teacher	14	2	6
Dancer	24	7	11
Model	20	23	17
Librarian	26	30	11
Nurse	11	7	4
Cashier	39 ^b	38 ^b	36 ^b
Cook	35	25	32
Critical value	> .35	> .33	> .32

^aThe critical values represent the percentages required to be significantly different ($p < .01$) from chance behavior in the predicted direction. Since sample sizes varied, the critical values varied.

^bNonsignificant percentage.

DISCUSSION

Young children evidently have clearly defined expectations concerning competence in occupational roles; these expectations correspond to societal sex stereotypes. Although there was a developmental difference, with older children adhering more rigidly to the stereotypes, children at each age level significantly discriminated on the basis of sex; matching the "female" occupations with the female doll, and the "male" occupations with the male doll. Previous research (Gettys & Cann, 1981) indicating that younger children show lower recognition of occupational sex stereotypes supports an interpretation of this interaction as a failure by the younger children to completely understand the occupational stereotypes, rather than as a sex-role flexibility that decreases with increasing age. The sex difference, while significant, produced a very slight variation (.245) and may represent a tendency to select the same-sex doll when one is unsure of a response.

descripti

label? descriptin instead?

The effects on the composite measure of stereotyping are all the more impressive, given that the results for one occupation in each category failed to follow the predicted pattern. For example, banker was identified as a profession in which the female would be superior, despite its position as a stereotypically male occupation. A likely explanation for the divergence in this instance is that in the interactions children have had within the bank setting, the bank teller is the individual who is most visible, and this occupation is sex typed as "female" (Shinar, 1975). An assessment of children's impressions of the tasks performed by a banker would help to clarify this discrepancy. The "female" occupation cashier yielded results in the predicted direction, but not significantly above a chance level. Whether this outcome reflects a less stereotypic view of the occupation or a simple lack of understanding of the occupation by the children cannot be determined from these data.

The present results provide an extension of our understanding of occupational stereotyping in children by demonstrating the impact these sex stereotypes have on the children's evaluative judgments. Children's beliefs that sex-appropriate individuals will be "better" in a career role have potentially more serious implications than previous demonstrations of sex-stereotype recognition. If role models are so firmly ingrained this early in life, and if media representations continue to present role models supportive of these stereotypes as the child matures, little incentive would seem to exist for children to pursue alternative career paths. Given that the children believe competence is dependent upon the sex of the incumbent, an important issue becomes the reactions of children to people in "inappropriate" professions. Will they react negatively to the male secretary or teacher and the female doctor or police officer? If social rejection occurs, it may become very difficult to establish credible role models for these nontraditional careers. More attention needs to be given to techniques that will allow for an interruption of this cycle. Additionally, the developmental changes need further investigation to clarify the changes that occur with increased experience with various occupations.

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Women on Words and Images, 1975c). The male occupations included lawyer, police officer, medical doctor, and office manager, while the female occupations included elementary school teacher, typist, librarian, and nurse. In a related study, Albrecht, Bahr, and Chadwick (1977) report a similar pattern in a large-sample survey of Utah residents. A list of 15 occupations was presented to respondents; nine were judged as only or more suitable for men (e.g., doctor, scientist, lawyer, congressman), and only three were viewed as only or more suitable for women (secretary, nurse, housekeeper). Although the lists employed in these studies were limited, and possibly biased toward commonly male-dominated professions, they do clearly indicate a pattern in which many occupations are sex typed as either male- or female-appropriate by adults.

Since adult models are presumed to be responsible for many of the behaviors and attitudes children develop (e.g., Mischel, 1970), children might be expected to evidence similar occupational stereotypes. Research on related behaviors indicates that highly sex-typed stereotypes are apparently effectively communicated to young children. A considerable body of evidence demonstrates that children develop highly sex-typed activity preferences and behaviors as early as age 3 (see Maccoby & Jacklin, 1975, for a review). While most of the research has involved activities which are appropriate for the age child being tested, other research does indicate a considerable degree of awareness of adult stereotypes. Verner and Snyder (1966) found that children as young as 30 months operated well above chance levels in identifying the sex linkage of "cultural artifacts." Five-year-olds made very few errors on this task. Similarly, Williams, Bennet, and Best (1975) report that kindergarten-age children seem aware of adult sex stereotypes concerning behavioral styles. When children answered questions about matched pairs of male and female adult story characters, they selected reactions for the characters that fit traditional stereotypes. For example, males were more likely to be selected in response to "which person gets into fights?," while female characters were picked more often in response to "which person is soft-hearted?"

Occupational sex stereotyping in children has been examined primarily with respect to the children's own choices of preferred or expected professions. Looft (1971) questioned first and second graders concerning their occupational goals as adults. Boys indicated a larger variety of potential occupations than girls, and they selected traditionally male professions (football player, policeman, doctor, pilot, etc.). Girls' selections were dominated by two occupations: nurse and teacher. Siegel (1973) reported similar results when second graders were asked to indicate the type of work they would most like to do when they "grew up." Boys again produced a longer list of occupations, with the list almost exclusively composed of stereotypically male occupations. Girls again selected teacher or nurse in the vast majority of cases.

A more recent study (Kriedberg, Butcher, & White, 1978) provides some evidence that the sex difference may be weakening. These researchers attempted a replication of Looft's (1971) procedure using second and sixth graders. They reported no sex differences in the number of occupations nominated at either age group. They did find, however, that the majority of the children selected traditional sex-appropriate occupations. The only indication of a variation from this pattern was in the sixth-grade females, where only half of the girls nominated traditional occupations.

Although these studies demonstrate that school-age children express sex-typed occupational aspirations, it is not clear that they perceive the occupations as stereotypically male or female. There is an important difference between apparently sex-typed preferences for professions, and the perception of occupations as appropriate for one or the other sex exclusively. The present research seeks to examine more directly children's perceptions of particular occupations. In addition, children younger than those previously tested are included to assess any developmental changes in perceptions. The procedure involved selecting a male or female stimulus person in response to each of 10 occupations. The prediction was that children at each age level would show evidence of a stereotyped perception of traditionally female and male occupations.

METHOD

Subjects

Subjects were 155 preschool and first-grade children ranging in age from 2½ to 8 years. The samples were obtained from two local day-care centers and one elementary school. There were 18 children in the 2½–3-year-old group (nine males and nine females), and 58 children in the 4–5-year-old group (32 males and 26 females). All of these children were obtained at the area day-care centers. The remaining 79 children, all in the 6–8-year-old group (40 males and 39 females), were first-grade students at the elementary school. An additional two children in the 2½–3-year-old group were eliminated when they preferred not to respond to the questions.

Materials

Two adult dolls, one male and one female, dressed as similarly as possible in slacks and a blouse, were used as the stimuli for the children to indicate their choices. The dolls were placed on a table in front of the child while the occupa-

tions were read aloud by the experimenter. For each child, the relative position of the dolls was randomly determined.

The occupations were listed on data sheets which included space to record the child's age, sex, and choices. Seven different data sheets were employed, each involving a new random order of presentation of the occupations. The use of a particular data sheet was randomly determined, with as many as 36 and as few as 14 subjects exposed to a particular order. The 10 occupations used are shown in Table I.

Procedure

Each child was interviewed individually by a 22-year-old white female (L.G.). The interviews took place in a corner of the child's classroom, or in a hallway outside the classroom. The experimenter took each child to the research area, seated her/him, and gave the following instructions: "We are going to play a game. I am going to call out some jobs that people do, and as I do I want you to point to the person (indicates the dolls) that you think does that job. There are no right or wrong answers." After it was determined that the child understood the task, the experimenter asked the child for his/her age, and then began reading the occupations and recording the child's choices. When the procedure was completed, the child was told not to tell the other children about the game, and then she/he was returned to the class.

Table I. Occupations Presented and Percentage of Children Assigning Male Doll to 10 Occupations

Occupation	2- and 3-year-olds	4- and 5-year-olds	6- and 7-year-olds
Male occupations			
Doctor	67	79	84
Police	67	90	92
Mayor	61	79	91
Basketball player	83	90	99
Construction worker	78	98	97
Female occupations			
Secretary	33	34	04
Teacher	22	10	06
Dancer	39	10	09
Model	33	28	34
Librarian	56	16 ^a	03
Total Ns	18	58	79

^aN = 38.

Table II. Summary of Analysis of Variance

Effect	Sum of squares	df	Mean square	F
Between group				
Sex of Child	0.0475	1	0.047	0.12
Age-level	2.1028	2	1.051	2.61
Sex of child × Age	0.0401	2	0.021	0.05
Error	60.377	150	0.403	
Within group				
Sex of Occupation	855.565	1	855.565	838.13 ^a
Sex of Occupation × Age	55.574	2	27.782	27.22 ^a
Sex of Occupation × Sex of Child	1.601	1	1.601	1.57
Sex of Occupation × Sex of Child × Age	3.680	2	1.840	1.80
Error	151.080	148	1.020	

^ap < .0001.

RESULTS

The children's responses were scored by assigning a zero (0) when the male doll was selected, and a one (1) when the female doll was chosen. Each child received a separate score for the "female" and the "male" occupations. Since there were five occupations of each type,³ the range of possible scores was from 0 to 5. For the male occupations, a lower score indicated greater sex typing, while a higher score reflected greater sex typing of the female occupations.

A 2(Sex of Child) × 3(Age of Child) × 2(Sex of Occupation) mixed design analysis of variance was performed on these data, with sex of occupation as the within-subject factor. The results of this analysis are presented in Table II. The Occupation main effect and the Age × Occupation interaction were both significant. There were no significant Sex of Child effects. The relevant means are displayed in Table III. Overall, the children showed strong evidence of a sex stereotyping of the occupations ($M = 4.00$ for female occupations, $M = 0.68$ for the male occupations). The Age × Occupation interaction seems to reflect the increasing recognition of the sex stereotypes with increasing age; simple effects tests reveal that the Occupation effect was significant at each level of the Age variable, $F_s(1,148) = 19.83, 232.67, 632.30, p_s < .01$.

³The occupation "Newscaster" was used with the first 20 4–5-year-olds. The children seemed overly confused by this occupation, so "Librarian" was substituted. In scoring the data for these children, "Newscaster" was considered a "male" occupation. This represented the more conservative approach since the actual choices were 7 for the male doll and 13 for the female doll.

Table III. Means and Standard Deviations for Summary Scores^a

	Age level			Totals
	2½ - 3 years old	4 - 5 years old	6 - 8 years old	
Male occupations	1.50, .786 (18)	.862 1.016 (58)	.367 .644 (79)	.68 (155)
Female occupations	3.00 1.084 (18)	3.724 .987 (58)	4.44 .694 (79)	4.01 (155)

^aThe numbers are based on a possible score of 0-5, with a 5 indicating that the female doll was selected for all five occupations. The numbers in parentheses are the sample sizes.

The extent to which sex stereotyping occurred for the individual occupations can be seen in Table I. There was a single case in which the majority of the children in an age group failed to select the doll which represented the traditional sex stereotype. Ten of the children in the youngest group picked the male doll for the occupation "librarian."

DISCUSSION

The pattern revealed by these data would seem to leave little doubt that young children not only select sex-stereotyped appropriate occupations for themselves, but they also recognize that the occupations are typically filled by males or by females. Children in every age group clearly and accurately distinguished between occupations which according to adult stereotypes or current practices are dominated by one or the other sex. Although there was a significant interaction with the age of the child, this reflected the increasing recognition with increasing age rather than an onset of the effect in older children.

These data are especially impressive for two reasons. First, the strength of the effect in the 2½-3-year-old group indicates that occupational sex stereotypes are learned very early. Apparently the child is exposed to a sufficient variety of occupations and practitioners during his/her first few years that a reliable distinction between "male" and "female" occupations can be made. The most probable sources of these stereotyped views of professions would be the television programs and children's books that have been identified and criticized as highly sex stereotyped (Women on Words and Images, 1975a, 1975b). Thus, very young children seem to have an amazingly clear division of their world into male and female artifacts (Verner & Snyder, 1966) and male and female occupational roles.

A second point worth noting is that the occupations used were not those with which children would necessarily be most familiar. For example, early research (Looft, 1971; Siegel, 1973) found that girls usually indicated nurse, housewife, or teacher as their preferred professions. The inclusion of dancer, model, and librarian presents the children with less-common occupations which are still sex stereotyped by adults. Similarly, the male occupations of mayor and construction worker are likely to be less common in a child's realm of experiences. The data in Table I show quite clearly that even the less typical occupations were, in fact, recognized by the children according to the sex stereotype.

The absence of any sex differences was not unexpected. Previous research has provided no basis for predicting a stronger expression of stereotypes in males or females. Although boys and girls show differences in the expressed preferred professions, these differences merely reflect equivalent recognition of the sex roles involved.

The actual tangible impact on children of this occupational sex stereotyping may be quite difficult to demonstrate; however, the potential for serious implications seems evident. By the time children enter the public school system they apparently are quite skilled in responding according to adult sex stereotypes. If these children are then exposed to textbooks and career guidance materials (Women on Words and Images, 1975b, 1975c) as well as television programming (Women on Words and Images, 1975a) that reinforces these distinctions, they are likely to narrow considerably their professional aspirations to conform to the sex stereotypes they have learned. For there to be a successful shifting of attitudes, so that barriers to nontraditional employment can be crossed by females and males, there must be an effort to insure that children are provided with a clear understanding that occupations are not categorized into male-only and female-only groupings.

That this already may be happening was suggested in the data reported by Kriedberg et al. (1978). They found that in a sample of sixth-grade females, half of the girls indicated a nontraditional profession as their occupational goal. Possibly a more extensive examination of older children will reveal a pattern in which sex stereotypes are diminished through new experiences.

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Sex Differences in Depression Expression and Help-Seeking College Students

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Considerable controversy has surrounded the expression of depression. A recent study of college students found no sex differences in depression, but the Depression Inventory, and yet significant differences in the expression of symptoms expressed by the students. The study found sex differences in symptom expression, help-seeking, and expression of dominance of women treated. The study aims to clarify these issues. The first study used a large sample of college students and female responses to the D3. The results confirmed the previous findings that male students are more likely to express depression by a lack of confidence, a lack of self-esteem, and a lack of hurt by criticism. The second study examined self-labeling of depression, attitudes toward help-seeking behaviors. A report of depression. However, the attitudes and reported behaviors.

Depression in its various forms is a common problem. Depressive responses among adolescents are a significant problem, with adolescents experiencing mood depression of all age groups.

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Sex Stereotype Impacts on Competence Ratings by Children¹

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Female and male children, 67 and 114 months of age, provided ratings of perceived relative competence of male and female stimulus persons who were depicted as engaging in sex-stereotyped professions. Ratings for each of eight occupations were made by allocating 10 plastic chips between the two stimulus persons. After the last trial, children also were asked to recall the occupation last paired with a particular stimulus person. Children at each of three age levels rated as more competent the individual whose sex was consistent with the stereotype for the occupational group presented; the degree of differentiation increased with age. Recall was influenced by the consistency of the stimulus person/occupation pairing with the sex stereotype, but was not related to ratings of competence.

Sex-role stereotypes appear to be transmitted to children quite early in life and with remarkable efficiency and significant impact. Very young children have impressive abilities to recognize the distinctions that characterize adult conceptions of sex differences, and sex-role appropriate activities and behavioral styles. Children between 2½ and 3½ years old reliably distinguish between objects associated with stereotypically sex-linked tasks (Vener & Snyder, 1966), traits, activities, and future roles (Kuhn, Nash, & Brucken, 1978). They have stereotypic views of many occupational roles,

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identifying certain occupations as appropriately filled by either a male or a female (e.g., Garrett, Ein, & Tremaine, 1977; Gettys & Cann, 1981). By 6 years, children are even more accurate in identifying the sex linkage of these objects and roles (Edelbrock & Sugawara, 1978), and they are able to make seemingly more subtle discriminations involving behavioral styles differentially attributed to females and males (Williams, Bennett, & Best, 1975).

These gender-based distinctions in some instances extended to influence the children's behaviors and behavioral predictions. Children have clear preferences for sex-appropriate objects at 6 years (Liebert, McCall, & Hanratty, 1971; DeLucia, 1963; Nadelman, 1974), even to the point of selecting geometric shapes based upon experimentally manipulated sex-appropriateness labels (White, 1978). Montemayer (1974) has demonstrated differential performance levels on a game labeled as sex linked, with 6-8-year-old boys and girls performing best when the label was gender consistent. An abundance of data has been reported in which children's predicted career goals reflect clear sex stereotypes (e.g., Kriedberg, Butcher, & White, 1978; Papalia & Tennent, 1975; Looft, 1971a, 1971b) consistent with the occupational sex stereotypes identified in research with adults (e.g., Albrecht, Bahr, & Chadwick, 1977; Panek, Rush, & Greenawalt, 1977; Shinar, 1975).

All these findings support Bem's (Note 1) claim that there is in society a "ubiquitous insistence on the functional importance of the gender dichotomy" (p. 19). Bem believes the young child learns that clear sex differences can be used to organize the world, and this division based upon sex has very general relevance. The empirical evidence strongly supports the notion that children have incorporated this dichotomy and are able to use it in deciding category membership for a large number of sex-stereotype questions. Less clear is the role that the stereotypes play in the child's evaluative judgment.

The sex stereotype the child develops may simply operate as a categorization scheme, evolving as the child experiences the social world. The information received by the child is known to be highly stereotyped (e.g., Women on Words and Images, 1975a, 1975b, 1975c; Downs, 1981; Zuckerman, Singer, & Singer, 1980), and the child may be attempting to learn about social reality by structuring these experiences and developing stereotyped expectations. The young child's limited cognitive capabilities and desire to be socially correct may produce the rigidity apparent in the child's behaviors. A stereotype that operates at this level might produce cognitive confusion when counterstereotypic instances are encountered, but no affective or evaluative reaction is demanded. As the child's experiences broaden, the confusion may give way to an expanded cognitive structure,

which permits a variety of cross-sex-role behaviors without threatening one's conceptions of social reality.

Alternatively, the stereotype may include an evaluative component which predisposes the child to reject or devalue instances that violate the prescribed pattern. The stereotype would represent for the child the objectively correct organization of social reality, rather than simply mirror the observations the child has made. The evaluative component would lead the child to judge those who engage in cross-sex-typed activities as inferior and undesirable, as well as cause the child to avoid these activities. A recent model of the sex-typing process (Martin & Halverson, 1981) assumes an evaluative component is incorporated into the sex-role schema that the child employs, but the evaluative reaction only operates in self-relevant decisions. Activities consistent with the child's own sex role are assumed to be judged positively, while those appropriate to the opposite sex role are judged negatively. The current proposal predicts a broader impact, with all variations from the expected pattern producing some devaluation.

The distinction between a nonevaluative information processing strategy and an evaluatively biased stereotype would seem to have significant implications for the concern expressed about children's sex stereotyping. An information processing system would become refined as the child is exposed to a variety of counterstereotypic experiences, resulting in less reliance on simple sex-stereotypic explanations as a function of available examples. The evaluatively biased alternative would likely be more resistant to change as a function of experiences with deviations from expectancies (since these would all be judged as inappropriate) and might persist in its influence. The type of intervention selected would vary depending upon the basis of the stereotyping behavior.

While prior research has focused on the recognition of stereotypes and the degree of self-definition consistent with the stereotypes, little attempt has been made to determine if evaluative biases are associated with these judgments. Tryon (1980) and Cann and Haight (1983) have attempted to determine for sex-typed activities and objects and for sex-typed occupations whether children perceive competencies varying as a function of the sex of the performer. However, in both studies children were severely limited in the responses they could make, being forced to choose the female or male stimulus person or both. In addition, Tryon (1980) did not make clear to the children that the activities depicted were performed by members of both sexes, thus allowing for the possibility the children assumed only males or females perform these tasks, and therefore the individual of the sex depicted must, by default, be the best. The present procedure attempted to minimize the restrictions by allowing the children to make a relative rating and by attempting to ensure that the child believed members of both sexes

performed the activity presented. To assess the distinction between the information processing basis for stereotyping and an evaluatively biased approach, an evaluative judgment was requested of children in a situation where both stereotypic and counterstereotypic examples were presented. Children were asked to indicate for a series of sex-typed occupations whether the female or the male incumbent was likely to be more competent. The absence of evaluative differences would support the information processing explanation, while reliable differences would imply an evaluatively biased view of the gender dichotomy.

A related issue examined in this investigation concerned the recent findings demonstrating that children often have difficulty accurately processing information that violates the pattern predicted by the sex stereotype. For example, after viewing a videotape depicted an interaction between a doctor, a nurse, and a child, children between 5 and 9 years of age were asked to identify the characters from photographs. When the videotape portrayed a female doctor and a male nurse, children made many more errors than when these roles were filled in a sex-stereotypic manner (Cordua, McGraw, & Drabman, 1979; Drabman, Robertson, Patterson, Jarvie, Hammer, & Cordua, 1981). Similarly, first- and second-grade children made more errors in a recognition memory task when the pictures to be learned presented counterstereotypic activities (Liben & Signorella, 1980), while fifth-grade children performed better on a recall matching task when the characters were sex-typed (Koblinsky, Cruse, & Sugawara, 1978). Since a failure to process accurately the counterstereotypic information presented could bias the child's responses, a measure of accuracy will be obtained to allow comparisons between children accurately and inaccurately processing the instructions.

METHOD

Subjects

A sample of 72 children, 36 females and 36 males, was selected from the children in grades kindergarten through 3 whose parents returned signed consent forms. The children all attended an open elementary school in a large southern city. There were 50 White and 22 Black children, ranging in age from 67 months to 114 months. Children were divided into three age levels: 67-78 months ($M = 71.5$), 79-95 months ($M = 87.6$), and 96-114 months ($M = 104.3$), with 12 females and 12 males in each age category.

Materials

Adult dolls, one female and one male, approximately 29 cm in height were used as stimuli. The dolls were similarly dressed in dark brown blazers and white shirts, with the male doll in beige slacks and the female doll in a beige skirt. Ten white poker chips (3.8 cm in diameter) were used to indicate relative ratings by dividing the chips between the two dolls. Six line drawings on gray construction paper (23 cm \times 30.3 cm) were used to train the child on the chip allocation task. The drawings depicted two flowers, two trees, and two houses. The children's responses were recorded on data sheets which listed the eight occupations (see Table I) to be presented in one of eight random orders. The occupations were selected based upon prior research assessing sex-typing of occupation by adults (Panek et al., 1977; Shepard & Hess, 1975; Shinar, 1975).

Table I. Means of Chips Allocated to the Female Doll as a Function of Age and Sex of Occupation^a

Occupation	Age of child (months)		
	67-78	79-95	96-114
Male occupations			
Police officer	4.63 (2.18)	4.21 (1.98)	3.42 (2.00)
Truck driver	3.33 (2.26)	3.17 (1.97)	3.54 (2.32)
Doctor	3.92 (2.67)	4.42 (1.59)	3.00 (1.64)
Principal	4.63 (2.50)	4.38 (2.50)	4.38 (2.04)
Combined	4.13 (1.06)	4.04 (1.17)	3.58 (1.14)
Female occupations			
Secretary	5.25 (2.94)	5.75 (2.05)	6.83 (2.08)
Nurse	7.08 (1.79)	7.54 (1.82)	7.63 (2.04)
Dancer	5.58 (1.61)	5.04 (1.49)	6.33 (2.18)
Teacher	5.75 (2.64)	5.79 (2.00)	6.58 (1.77)
Combined	5.92 (1.52)	6.03 (1.07)	6.84 (1.42)

^aScores could vary from 0 to 10, with higher scores for female occupations indicating greater sex-role stereotyping. There are 24 observations per value. Standard deviations are in parentheses.

Procedure

Each child was met in his/her classroom by the experimenter, a 31-year-old White female, and asked to participate in a game (one male child refused and was replaced by a same-age male). The child was escorted to the school library and seated at a corner table. To train the child in the use of the poker chips to make a relative rating, the experimenter placed the pair of pictures of flowers on the table and stated: "I have two pictures here, and I want to show how good I think these pictures are by using these chips. I think these pictures are both good, but I think this one (points to one picture) is a little better than this one (points to alternative), so I am going to put more chips in front of the one I think is better." The experimenter then placed 6 chips in a stack in front of the "better" picture and 4 in front of the other picture.

This procedure was repeated with the two tree drawings, only this time the experimenter indicated she liked one a "lot better" than the other and put all 10 chips in a stack in front of the preferred drawing. The experimenter once again explained the relationship between the number of chips and a rating of goodness and then allowed the child to provide a rating of the two house drawings. No child seemed to have trouble with the task after this training.

The two dolls were placed on the table (the relative positions varied randomly) and the experimenter explained that a slightly different game would be played:

The game is a little different from what we have been doing. We are going to use these dolls instead of the pictures. These dolls represent people. I am going to call out some jobs that these two people do, and I want you to show how well you think each of these people does these jobs by using the chips. Both of these people do each job that I call out. Remember, there is no right or wrong answer, and you can place any number of chips you wish in front of a person, but all the chips must be used. The more chips you place in front of a person, the better you think that person does the job. The fewer chips you place in front of a person, the less well you think that person does the job. Do you have any questions before we start the game?

The occupations were presented in the order listed on the sheet, with the child instructed for each occupation that: "These people are both _____s. By using the chips, show how good a _____ you think each person is." After each occupation, the number of chips allocated to the female doll was recorded. Following the last allocation of chips, the experimenter pointed to the doll on the child's right and asked the child to recall the last occupation this individual was reported to have performed. This was done to assess the child's ability to process the information provided. Since repeated questions of this type might have distracted the

child, the last occupation was the only one examined. The child was returned to his/her classroom after the experimenter answered any questions and enlisted the child's help in keeping the game a secret.

RESULTS

The responses were scored by recording the number of chips allocated to the female doll for each occupation. Means were computed for the four female occupations and the four male occupations. The means could vary from 0 to 10, with scores above 5 indicating the female was perceived as better at the occupations, scores less than 5 indicating the male was preferred, and scores equal to 5 indicating equal perceptions of competence.

A 2 (sex of child) X 2 (sex of occupation) X 3 (age of child) analysis of variance was performed on these data, with sex of occupation as a within-subject factor. The sex of occupation main effect was significant, $F(1, 66) = 110.89, p < .0001$. More chips were assigned to the female doll for the female occupations ($M = 6.26$) than for the male occupations ($M = 3.92$). A significant sex-of-child effect, $F(1, 66) = 5.72, p < .02$, revealed females allocated more chips to the female doll ($M = 5.30$) than did males ($M = 4.88$). Finally, a sex of occupation X age interaction, $F(2, 66) = 4.26, p < .02$, indicated that the differentiation according to the sex of the occupation increased with age (see Table 1). The differences between male and female occupations were significant at each age level (simple effects tests, $F_s(1, 66) = 21.51, 26.54, 71.32$ for age levels 67-78, 79-95, 96-114 months, respectively; $p_s < .01$). However, an evaluation of the partial interactions demonstrates that the interaction is caused by the greater differences at the oldest age level (the partial interaction involving just the two younger groups was not significant, $F(1, 66) = .13$, while the two partial interactions involving the oldest children were both highly significant, $F_s(1, 66) = 7.26$ and 5.43). The differentiation based on sex of occupation is strongest among the oldest children.

The recall data—children's responses when asked to recall the last occupation performed by the right-hand doll—were scored as correct or incorrect and were evaluated according to the sex-stereotype consistency of the last occupation. For example, if the occupation had been doctor, and the right-hand doll the male doll, this would be consistent with the stereotype. The occupation secretary, paired with the male doll, would have been inconsistent. At issue is whether variations from expectations would be more difficult to remember and, if so, whether this effect influenced the child's responses on the primary task. Of the 40 instances where the occupation/sex of doll pairing was consistent, 36 of these produced correct

recall, while the 32 stereotype-inconsistent pairings produced 14 correct responses, a significant dependence, $\chi^2(1) = 11.82, p < .001$.³ Despite this relationship, *t* tests comparing the chips allocated for each occupation by children responding correctly versus those responding incorrectly revealed no significant differences, *ts*(70) 1.56, *ns*.⁴ Correctness of recall is unrelated to the degree of stereotyping evidenced.

DISCUSSION

Children's stereotypes concerning occupational roles must include an evaluative component that produces diminished expectations for sex-role violators. Children at each age level reliably discriminated between individuals based on the gender stereotype for the occupation. Females were expected to be more competent in the traditionally female occupations, and males were perceived as superior in the male sex-typed roles. Although ratings varied consistently in the predicted direction (from the midpoint equal competence rating), the significant differences reflected only a moderate bias. Females were not judged to be incompetent at male sex-typed professions, but they were consistently viewed as less competent. Analogous evaluations were made of males presented in female occupations.

These results, while consistent with previous findings obtained using simple dichotomous choices to assess perceptions of competence (Cann & Haight, 1983), demonstrate that such judgments are not absolute. Our more sensitive assessment of relative competence reveals a less than total reliance on the performer's sex in predicting competence. The children's stereotypes appear to allow for the possibility that cross-sex-type performers can experience some degree of success.

The interaction between age and sex of occupation also is consistent with previous research (Cann & Haight, 1983; Gettys & Cann, 1981; Williams et al., 1975) and supports the notion that reliance on sex as a basis for categorization mirrors the availability of a gender schema. Younger children, lacking an awareness of many instances where gender is a relevant variable in adults' stereotypic beliefs, perform as if they are less rigid than older children in their adherence to the gender distinction; in fact, the younger children probably have less well-defined categories. The alternative position, that children become increasingly rigid in the application of

³Supplemental analyses assessing the relationship between correct responses and age, and correct responses and sex revealed no significant patterns.

⁴Although these are not independent *t* tests, this represents a conservative approach, since no difference was expected.

equivalent stereotypes seems logically much less reasonable. The sex-of-child main effect, caused by children assigning more chips to the own-sex doll, suggests a slight own-sex bias, at least in rating competence. There is no evidence of stronger stereotyping by one sex.

The data on recall accuracy in reporting the occupation last matched with a doll, and the absence of reliable variations in competence ratings as a function of recall differences, provide further insights into the process of sex stereotyping by children. First, the superior recall demonstrated by children in instances when the occupation was consistent with a sex stereotype supports the findings of a growing body of research on gender schema (Cordua et al., 1979; Drabman et al., 1981; Koblinsky et al., 1978; Liben & Signorella, 1980). According to these studies, a child uses gender information in his/her categorizing strategy. When expectations based on the schema are violated, the child experiences disruptions, which inhibit efficient processing. Together with the data reported by Liben and Signorella (1980), which showed that children who scored higher on a measure of stereotyping also made more errors on a recognition task when the items were counter to the stereotype, these data provide strong support for a gender-schema-based processing strategy. The more inflexible the stereotype, the greater the schema's potential for disruption of the memory system when the information fails to fit the schema.

Second, the gender schema must have evaluative information incorporated into the categorization process. Instances consistent with the schema were perceived as necessarily superior. This isomorphism between category membership and evaluation would explain the children's persistence in rating the individual who matched the stereotyped expectation as more competent even when the child's short-term recall of the actual pairing was deficient. Apparently, the child had only to know that the stereotypic expectation was met to make a rating of perceived relative competence. The child must make a snap judgment consistent or inconsistent with the expected pattern and then derive an evaluation on that basis. This is a much simpler cognitive demand than processing the variety of actual occupation/individual pairings.

Overall, these results indicate that children are willing to make evaluative judgments based on a stereotype or gender schema which assigns certain roles according to sex. At least across the age ranges investigated, there seems little evidence of separate systems for making simple category assignments and for making more involved evaluative decisions. Perhaps elaboration of the schema takes place much later, eventually allowing base rate differences in group or occupational membership to occur without the assumption of a priori performance differences. A case might be made for accepting this transition as a natural process constrained by the developing

cognitive abilities of the child. However, research with adults dooms such an optimistic view, since the transition does not always occur (e.g., Bem, Note 1). Alternatively, the child's cognitive development may represent a necessary, but not sufficient, requirement. Further examination across a wider age range and with assessment of intervention programs designed to counter the development of sex stereotypes may provide the basis for separating the alternatives. So long as the developing child is exposed to a restricted and stereotyped (e.g., Women on Words and Images, 1975a, 1975b, 1975c) view of sex roles, there may be little reason to expect a more complex perception of the social word to emerge.

REFERENCE NOTE

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Sex Stereotype Effects in Children's Picture Recognition

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CANN, ARNIE, and NEWBERN, SARA R. *Sex Stereotype Effects in Children's Picture Recognition*. CHILD DEVELOPMENT, 1984, 55, 1085-1090. Children performed a 2-option forced-choice picture recognition task in which the 2 pictures presented varied the sex of the person performing an activity. During acquisition the children had been presented with pictures in which the match between the activity and the performer was consistent with or inconsistent with sex stereotypes. Additional pictures involving stereotype neutral activities also were presented during acquisition and recognition. Half of the children received verbal labels along with the pictures. The labels were expected to facilitate recognition when the picture was consistent with the stereotype, but inhibit performance when the portrayal was inconsistent, since the labels described sex-stereotyped activities. There were equal numbers of female and male children in 2 age groups, and the children were selected based on a pretest to create 2 levels of adherence to sex stereotypes. The results indicated that the labels did inhibit performance on the sex stereotype inconsistent pictures, but produced no increases for stereotype consistent pictures. An interaction involving the sex of the person pictured, sex of child, and sex-stereotype consistency revealed that males responded differentially as a function of the sex of the person pictured, while females were unaffected by this variation. Overall, the results were taken as supportive of a gender schema view of sex-typing in children.

Children develop clearly defined sex stereotypes at a very early age, and these stereotypes have been shown to influence a variety of attitudes and behaviors. Recently, attention has been focused on a new area of influence—the processing of information involving sex-typed activities. Koblinsky, Cruse, and Sugawara (1978) had fifth graders recall information from stories they had read in which the characters exhibited equal numbers of stereotypic and counterstereotypic characteristics. Recognition was better when the characteristics were sex-typed and paired with the appropriate sex performer. Performance was improved when children first read a profile of the story characters indicating nontraditional interests, but recall for the stereotype-consistent information remained higher (Koblinsky & Cruse, 1981).

Drabman and his associates (Cordua, McGraw, & Drabman, 1979; Drabman, Robertson, Patterson, Jarvie, Hammer, & Cordua, 1981) found similar systematic

confusions in recognition of person-role pairings when counterstereotypic pairings were presented. Children between the ages of 5 and 9 years viewed videotaped interactions involving a nurse, doctor, and child. After a delay, the children were presented with photographs and were asked to identify the characters and their roles. When the doctor and nurse roles were filled by counterstereotypic performers, female doctor or male nurse, the children had many more recognition errors. The errors almost always resulted from making sex-stereotypic choices, selecting a female as the nurse or a male for the doctor, not from simply misidentifying a person of the same sex as the original stimulus person. In each of these cases it would appear that the sex stereotypes held by the children have interfered with the accurate processing of information.

Additional evidence implicating sex stereotypes in this cognitive confusion is described in two recent studies using picture recognition tasks with children. Liben and

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Signorella (1980) presented first- and second-grade children who had previously been classified as either high or low on a measure of sex stereotyping with a series of pictures depicting adults performing sex stereotype consistent and inconsistent activities. During recognition trials, children previously classified as highly stereotyped made more errors on the nontraditional compared to the traditional portrayals of male stimulus persons. Children in the low-stereotype group evidenced no differences. These results would seem to suggest that as the sex stereotype becomes more firmly entrenched in the child's belief system, we may find increasing interference with the processing of sex-typed information, at least for information involving male performers. This conclusion is weakened, however, by the results from the second picture recognition study (Martin & Halverson, 1983), which failed to find an effect for level of stereotyping. Martin and Halverson tested for free recall and probed recall, and on both measures children showed a greater tendency to reverse the sex of the actor portrayed when the pictures presented were counterstereotypic. Thus, it is clear that children have difficulty processing counterstereotypic information, while individual differences in level of stereotyping may or may not enhance this confusion. These results are especially noteworthy given the generally impressive performance by even very young children on picture recognition tasks (Brown & Campione, 1972; Brown & Scott, 1971; Perlmutter & Myers, 1975). Apparently these gender-based expectations have an effect on cognitive processing even when the task requires processing only pictorial information, not sex-related content.

Recent proposals suggesting a schema-based structure underlying the sex-stereotyping process (Bem, 1981; Martin & Halverson, 1981) provide a model within which these results are interpretable. A schema is a cognitive structure that provides an organizational network within which information relevant to the structure is processed (see Taylor & Crocker, 1981, for a review of schemas in social information processing). The gender schema approach to sex typing predicts that information that has gender content will activate the gender schema and will be processed within the schema, being subject to influence by the individual's sex-stereotypic expectations even when gender content is not relevant to the task demands. Thus, pictures that portray sex-typed ac-

tivities will be more difficult to process within the schema structure, and one would expect that individuals with more rigid gender schemas will have even greater difficulty with these stimuli.

One technique that has been used effectively to improve picture recognition performance in children is the inclusion of descriptive labels for the pictures. Nelson and Kosslyn (1976) have shown that 5-year-old children benefit significantly from the addition of meaningful verbal labels for both abstract and realistic pictures. This suggests an interesting dilemma for the child, if the gender schema models of sex typing are correct. A sex-stereotyped label included with the picture should insure that the schema is activated even when the picture is not perceived as relevant to sex roles and enhance the schema's impact on cognitive processes. With the schema activated by the label, traditional portrayals (male doctor) might be even more easily encoded. Encoding and recognition of nontraditional portrayals (female doctor), on the other hand, would be further inhibited by the sex-typed expectations that comprise the schema. I/C

The present research provided a test of this labeling effect, while extending the earlier findings on sex-stereotyped picture recognition to include an examination of developmental changes and a further consideration of the impact of individual differences in sex-stereotype adherence on picture recognition performance. Children in two age groups were presented with pictures depicting traditional, nontraditional, or neutral scenes. Additionally, children were divided according to a measure of sex stereotyping, and half of the children received meaningful but sex-stereotyped labels along with the pictures. A gender schema model predicts that the labels will produce even greater difficulty when portrayals are nontraditional, with this effect most pronounced for those children who are highly sex stereotyped.

Method

Subjects.—A sample of 80 children was selected based on pretest scores. There were 40 males and 40 females, with half in each of two age groupings and half at each of the two levels of sex stereotyping. The younger children had a mean age of 70.6 months, with a range from 63 to 77 months. The older children averaged 94 months, with a range from 84 to 99 months. All children had returned a

signed parental consent form and had agreed to participate.

Pretest.—In order to identify the required number of children at each level of sex stereotyping, an initial group of 97 children was tested using the Sex Role Learning Index (SERLI) developed by Edelbrock and Sugawara (1978). The SERLI identifies children's views of adult sex roles and their reported sex-typed activity preferences. The pretesting took place 12–18 weeks prior to the recognition task. Scores from four SERLI scales were combined into a single measure of sex stereotyping (sex role discrimination—own and opposite sex; sex role preference—child and adult figures). The total scores could range from 40 to 360, with higher scores indicating stronger stereotypes.

Materials.—The pictures were selected from those used by Liben and Signorella (1980), although some additional pictures had to be created so that both a male and a female were presented engaging in each activity. These pictures have been shown to be correctly interpreted by children, and the interpretations are unaffected by individual differences in level of sex typing (Signorella & Liben, Note 1). There were 38 activities depicted: 14 traditionally male, 14 traditionally female, and 10 neutral. Each activity was portrayed once with a female stimulus person and once with a male stimulus person, for a total of 76 pictures. The pictures were 10.5 × 9.5 cm. There were two random orders of the activities and two variations of each order created by changing the sex of the stimulus person. Thus, there were four possible acquisition lists, and list type was balanced across conditions. During the recognition trials, the pair of pictures depicting the same activity, with stimulus person sex varied, were presented side by side. There were an equal number of pairs with the female on the right and with the male on the right. Before each recognition trial, the order of the activities was varied by shuffling the cards.

Procedure.—The child was seated across from the experimenter and was instructed to pay close attention to the pictures since he or she would be asked to remember them later. The experimenter was unaware of the sex-stereotype level of the child, and the assignment to label/no label conditions had been made by someone else. The pictures were presented for 1 sec each, and in the label conditions, a one-word label was

presented verbally as the picture was shown. After the 38 pictures had been presented, a 4-min delay was introduced. During this interval, the child was asked to draw a picture of a house or a tree. At the end of the 4 min, the child was told that he or she would be shown two pictures at a time, one that had been seen before and one that was new. The child's task was to point to the picture that had been seen earlier. At the end of the procedure, the child was thanked and returned to the classroom. The design was a 2 (sex of child) × 2 (age of child) × 2 (label/no label) × 2 (sex of stimulus person) × 3 (portrayal—traditional, nontraditional, neutral) factorial design. The first four variables were between-subjects variables, and the last two were within-groups manipulations.

Results

Pretest.—The scores from the SERLI were subjected to a sex × age × sex-stereotype level analysis of variance. The sex-stereotype level and age main effects were significant, $F(1,72) = 68.9$ and 31.5 , p 's < .0001. The high-sex-stereotype children scored reliably higher ($M = 331.8$) than the low-sex-stereotype children ($M = 293.4$), but the older children ($M = 334.8$) also scored higher than the young children ($M = 290.5$). This age effect is consistent with the earlier findings concerning the SERLI (Edelbrock & Sugawara, 1978) and other results indicating an increasing adherence to sex stereotypes with increasing age in these age groups (e.g., Gettys & Cann, 1981; Williams, Bennett, & Best, 1975).

Recognition errors.—An analysis of variance was conducted on the number of errors. There were four between-subjects factors—sex, age, level of sex stereotyping, and labeling—and two within-subjects factors—stimulus person sex and portrayal. As expected, the children had greater difficulty recognizing the pictures when the portrayal was nontraditional. The main effect for portrayal was significant, $F(2,128) = 30.88$, $p < .0001$, and paired comparisons, using the Newman-Keuls procedure ($p < .05$), confirmed that no reliable difference existed between the traditional and neutral portrayals (M 's = 1.96 and 1.83), while the error rate for nontraditional portrayals was higher than in either of the other two conditions ($M = 2.86$). The labeling manipulation interacted with the portrayal variations, $F(2,128) = 3.42$, $p < .04$, producing the predicted increase in errors when a nontradi-

tional portrayal was presented with a label. Simple effects tests supported this interpretation, indicating a reliable labeling difference only for the nontraditional condition, $F(1,128) = 7.53, p < .05$ (nontraditional—label $M = 3.15$, no label $M = 2.58$; traditional—label $M = 1.95$, no label $M = 1.96$; neutral—label $M = 1.89$, no label $M = 1.76$). The portrayal manipulation also interacted with sex of child and sex of stimulus person (SP), $F(2,128) = 3.50, p < .04$. This interaction seems due to the differential performance by males as a function of stimulus-person sex. Males made more errors on pictures containing female stimulus persons than on pictures with male stimulus persons when the portrayal was traditional (male SP $M = 1.40$; female SP $M = 2.35$) or neutral (male SP $M = 1.48$; female SP $M = 2.38$), simple F 's $(1,128) = 7.75$ and $6.96, p < .05$, while for nontraditional portrayals, there was no reliable difference as a function of stimulus-person sex. Females were not differentially influenced by stimulus-person sex. The sex of child \times sex of stimulus person, $F(1,64) = 5.48, p < .05$, and sex of stimulus person \times portrayal, $F(2,128) = 3.38, p < .05$, interactions also were significant, but these effects are subsumed by the three-way interaction.

Age differences produced a main effect, $F(1,64) = 12.60, p < .05$, with the older children making fewer errors, but age also interacted with a number of other manipulations. Age interacted with the label manipulation in three different three-way interactions. All of these interactions produced similar relationships between age and label, suggesting a possible common underlying influence by the three other variables: sex of child, $F(1,64) = 5.21, p < .05$, level of sex-stereotyping, $F(1,64) = 5.73, p < .05$, and sex of stimulus person, $F(1,64) = 4.10, p < .05$. For male children, children classified as highly stereotyped, and for pictures with a female stimulus person, performance improved with age when no label was provided, but did not change reliably when a label was included. However, for female children, children classified as less stereotyped, and for pictures of males, there were no developmental changes in the no-label condition, while performance increased significantly with age when there was a label provided. Simple effects comparisons confirmed all of these relationships, simple F 's $(1,64) > 6.40, p < .05$, for all significant effects, all other simple F 's < 2.80 . Apparently, males, in general, change develop-

mentally in response to the labeling information in a manner similar to all children who are highly sex stereotyped, and all children when the processing involves pictures of females. Since these interactions are not directly relevant to the issues at hand, they will not be discussed any further.

A final interaction included sex of child, level of sex stereotyping, and label, $F(1,64) = 6.83, p < .02$. Highly sex-stereotyped males made fewer errors ($M = 1.75$) than the less stereotyped males ($M = 2.62$) when there were no labels, simple $F(1,64) = 8.20, p < .05$. Level of sex stereotyping had no effect when there were labels. Females showed evidence of an opposite reaction, but the differences for females were not reliable.

Discussion

The results support a gender schema model of processing sex-stereotyped stimuli. Children had more trouble remembering the pictures they had seen when the portrayal was counter to their sex-typed expectations. Male children, compared to female children, had greater difficulty with traditional and neutral pictures of females, suggesting a slight same-sex bias for the males, but the overall results are consistent with the proposed model. It seems an unlikely explanation that the children were simply guessing according to preconceived notions about probable character/activity pairings. Their performance when the activities were neutral was equal to their performance on the traditional portrayals, indicating that they were processing the pictures effectively, encoding and decoding information about the sex of the person depicted along with the activity. They processed the content incorrectly much more often when it was contrary to the stereotyped structure represented by the schema. Whether this distortion occurred during encoding or decoding, or both, remains to be determined. The children may have incorrectly categorized the picture during learning, because of the unavailability of an appropriate category. Alternatively, they may have experienced retrieval problems, leading to a schema-consistent response because the memory trace became weak much sooner and was biased by the schema-based expectations. Research on schematic processing in adults has produced evidence for both encoding (e.g., Rothbart, Evans, & Fulero, 1979) and decoding effects (Snyder & Uranowitz, 1978).

The categorization of children into high and low stereotypers failed to yield any interesting effects. The results do not support Liben and Signorella's finding of increased error rates only for highly stereotyped children on nontraditional portrayals of males. Instead, our results, like those described in Martin and Halverson (1983), indicate that regardless of sex-stereotype level, nontraditional portrayals are more difficult for children to process. The highly sex-stereotyped children were expected to have greater difficulty with nontraditional material because the degree of sex typing was assumed to reflect the strength and influence of the gender schema. For example, Bem (1981) described research on adults that showed that highly sex-typed individuals responded faster when making schema-consistent judgments and slower when making schema-inconsistent decisions than did non-sex-typed adults. Why, then, have individual differences in sex stereotyping failed to affect performance in two different studies? An interesting possibility derives from a distinction drawn by Martin and Halverson (1981). They propose two sex-related schemas, an "in-group out-group" schema, which contains information about the sex typing of social objects and activities, and an "own-sex schema," which is more focused, containing details about one's own sex. The picture memory task would seem to invoke the "in-group out-group" schema, while Bem's task would seem to require processing through the "own-sex" schema. Perhaps these two schemas do operate with some degree of independence, and only at the level of the own-sex schema do individual differences matter. A second possibility that must be considered is that among children the variation in levels of sex stereotyping may not be sufficient to produce differences in processing. Most children are highly sex stereotyped (as is evident from the high SERLI scores in the present study), while adults may show much greater variation.

The labeling manipulation produced an impact on recognition of nontraditional portrayals that would be expected if a gender schema was guiding the information processing. The children seemed unable to use the labels independently of their sex-stereotype relevance. Providing children with an appropriate but sex-typed label for the nontraditional portrayals actually inhibited their performance. Within the schema, remembering that one saw a "doctor/nurse" implies that one saw a "male/female." The

presence of the label makes the schema more salient and, in the case of counter-stereotypic portrayals, a more likely source of bias in recall. The result is that the nontraditional portrayals now become even more difficult than before to correctly process.

When the label and portrayal are consistent with the schema, this same logic predicts that recognition should be enhanced. The failure of the labels to improve performance in the traditional condition may have been due to a ceiling effect, although there clearly was room for improvement. The error rates were already quite low for those portrayals, and the labels may not have added any useful cues. Information consistent with a schema may be processed so efficiently that memory aids are unnecessary. If the memory task was made more challenging by increasing the delay before testing or by using a larger set of stimuli, the labels may have a greater impact.

Overall, the results provide additional support for a schema-based model of sex typing by demonstrating biased processing of sex-stereotype-relevant stimuli. Incoming information that contradicts these expectations is more likely to be either handled less efficiently or distorted to fit into the predicted category. The label effects confirm that children have difficulty using a label independently of its sex-stereotype relevance. Labels that activate the gender schema, by denoting a sex-typed activity, actually inhibit recognition performance when the picture is schema inconsistent. One of the hazards of schematic processing (Martin & Halverson, 1981; Taylor & Crocker, 1981) is that the individual becomes almost resistant to information that fails to match the schema. By developing such rigid sex-typed categories so early, children are likely to delay the development of a more flexible perspective concerning sex roles. Recognizing that children may be distorting or selectively responding to gender-relevant information should help in designing effective strategies for counteracting this unrealistic view of behavioral options.

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TI DOCUMENT TITLE: Traditionality of children's interests as related to their parents' gender stereotypes and traditionality of occupations.

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AB ABSTRACT: Examined whether parents' gender stereotypes, maternal employment status, and the traditionality of parents' occupations were associated with the traditionality of 113 preschool children's vocational interests. Traditionality of children's interests was examined using an instrument developed for the study. 113 mothers and 106 fathers were administered an attitudes toward women scale, and traditionality of their occupations was assessed. Only the traditionality of the mothers' occupations significantly correlated with the traditionality of the interests of both boys and girls. Other variables tested did not show such relationships. Results are discussed in terms of the function of the role model in gender identity development and vocational schema modification. (PsycLIT Database Copyright 1991 American Psychological Assn, all rights reserved)

KP KEY PHRASE: parents' sex stereotype attitudes & traditionality of occupation & maternal employment status; traditionality of vocational interests; 5.5-6.5 yr olds & their parents

DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; PARENTAL-OCCUPATION; EMPLOYMENT-STATUS; OCCUPATIONAL-INTERESTS; PRESCHOOL-AGE-CHILDREN; SCHOOL-AGE-CHILDREN; PARENTAL-ATTITUDES; CHILDHOOD-; ADULTHOOD-

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LA LANGUAGE: English
PY PUBLICATION YEAR: 1990
AB ABSTRACT: Examined the creative writing responses of 70 3rd-grade and 70 6th-grade (half male) writers to story characters cast in either stereotypic (ST) occupational roles (male mechanic and female nurse) or nonstereotypic (NST) occupational roles (female mechanic and male nurse). The 560 stories were examined for maintenance of character in assigned occupational role, development of character along gender-ST and NST lines, and evidence of gender change in the lead character. Development of character seemed consistent with gender expectations for the lead character in the ST stories and in the NST female mechanic story. For the NST male nurse story, development of character was consistent with author's gender. Further evidence of ST thinking occurred in NST stories in which the lead character's gender was changed to be consistent with the stereotype of the occupational role. (PsycLIT Database Copyright 1991 American Psychological Assn, all rights reserved)
KP KEY PHRASE: gender stereotypic vs nonstereotypic occupational roles portrayed in story characters; development of characters in creative writing responses; 3rd & 6th graders
DE DESCRIPTORS: SEX-ROLES; STEREOTYPED-BEHAVIOR; STORYTELLING-; SEX-ROLE-ATTITUDES; NONTRADITIONAL-CAREERS; SCHOOL-AGE-CHILDREN; OCCUPATIONS-; CHILDHOOD-
CC CLASSIFICATION CODE(S): 2840
PO POPULATION: Human
AG AGE GROUP: Child
UD UPDATE CODE: 9104
AN PSYC ABS. VOL. AND ABS. NO.: 78-09669
JC JOURNAL CODE: 2168

TI DOCUMENT TITLE: Gender stereotyping in Singaporean children.
AU AUTHOR(S): Ward, -Colleen
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Canterbury,
Christchurch, New Zealand
JN JOURNAL NAME:
International-Journal-of-Behavioral-Development; 1990 Sep Vol
13(3) 309-315
CO CODEN: IJBDDY
IS ISSN: 01650254
LA LANGUAGE: English
PY PUBLICATION YEAR: 1990
AB ABSTRACT: Examined the pattern of gender stereotyping in 40
5-yr-old children (20 boys, 20 girls) and 40 8-yr-old children
(20 boys, 20 girls) in Singapore, using Ss' responses to the Sex
Stereotype Measurement II (SSMII) used by J. E. Williams and D.
L. Best (1982). Although a 2 (S sex) by 2 (stereotype sex) by 2
(age) analysis of variance (ANOVA) revealed that the male
stereotype was better recognized than the female stereotype and
that own-sex rather than opposite-sex stereotypes were more
familiar, findings were qualified by a 3rd-order interaction with
age. A comparison of these data with SSMII children's data from
24 countries indicated that Singaporean 5-yr-olds produced high
stereotype scores but that 8-yr-olds fell within a median range.
(PsycLIT Database Copyright 1991 American Psychological Assn, all
rights reserved)
KP KEY PHRASE: age; sex stereotyping; 5 vs 8 yr olds; Singapore
DE DESCRIPTORS: AGE-DIFFERENCES; SEX-ROLES;
STEREOTYPED-BEHAVIOR; SINGAPORE-; PRESCHOOL-AGE-CHILDREN;
SCHOOL-AGE-CHILDREN; CHILDHOOD-
CC CLASSIFICATION CODE(S): 2840
PO POPULATION: Human
AG AGE GROUP: Child
UD UPDATE CODE: 9102
AN PSYC ABS. VOL. AND ABS. NO.: 78-04195
JC JOURNAL CODE: 2063

TI DOCUMENT TITLE: Slang: A male domain?
 AU AUTHOR(S): de-Klerk, -Vivian
 IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Rhodes U,
 Grahamstown, South Africa
 JN JOURNAL NAME: Sex-Roles; 1990 May Vol 22(9-10) 589-606
 CO CODEN: SROLDH
 IS ISSN: 03600025
 LA LANGUAGE: English
 PY PUBLICATION YEAR: 1990
 AB ABSTRACT: Measured the effect of sex, age, and type of school
 (public vs private) on use of slang in 80 boys and 80 girls in 2
 age groups (12-14 yrs and 15-17 yrs). Results do not support the
 stereotype that girls know and use fewer slang terms than boys.
 Slang knowledge rose commensurately with increasing age. A trend
 of linguistic confidence was noted among boys in coeducational
 schools and among Ss from private schools. It is probably not the
 sex of the speaker alone that influences slang usage, but also
 the speaker's age and scholastic environment. (PsycLIT Database
 Copyright 1991 American Psychological Assn, all rights reserved)
 KP KEY PHRASE: sex & age & public vs private school; use of
 slang; 12-17 yr olds
 DE DESCRIPTORS: AGE-DIFFERENCES; HUMAN-SEX-DIFFERENCES;
 PRIVATE-SCHOOL-EDUCATION; PUBLIC-SCHOOL-EDUCATION; SLANG-;
 SCHOOL-AGE-CHILDREN; CHILDHOOD-; ADOLESCENCE-
 CC CLASSIFICATION CODE(S): 2840
 PO POPULATION: Human
 AG AGE GROUP: Child; Adolescent
 UD UPDATE CODE: 9102
 AN PSYC ABS. VOL. AND ABS. NO.: 78-04141
 JC JOURNAL CODE: 2055

TI DOCUMENT TITLE: Sex stereotypes in Norway revisited: 1977-87.
AU AUTHOR(S): Bjerke, -Tore; Williams, -John-E.; Wathne, -Per-H.
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Trondheim,
Norway
JN JOURNAL NAME: Scandinavian-Journal-of-Psychology; 1989 Vol
30(4) 266-274
CO CODEN: SJPYA2
IS ISSN: 00365564
LA LANGUAGE: English
PY PUBLICATION YEAR: 1989
AB ABSTRACT: Replicated the study of J. E. Williams and
colleagues (see PA, Vols 64:7783 and 67:9655) to examine
persistence and change in sex-trait stereotypes. 54 male and 54
female undergraduates (UGDs) completed the Norwegian translation
of the Adjective Checklist and 32 male and 32 female children
(CLD (mean age 67 mo)) were administered a sex stereotype
measure. Quantitatively, UGDs' sex-trait stereotypes changed
little during the last decade, but qualitative analyses indicated
that stereotypes changed in the direction of greater
favorability, activity, and strength toward the female stereotype
and in the reverse direction toward the male stereotype. CLD in
the 1987 sample expressed less stereotype knowledge than CLD in
the 1977 sample concerning traits traditionally ascribed to men.
(PsycLIT Database Copyright 1990 American Psychological Assn, all
rights reserved)
KP KEY PHRASE: sex trait stereotypes; college students vs
children; Norway; replication
DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES;
AGE-DIFFERENCES; NORWAY-; EXPERIMENTAL-REPLICATION; CHILDHOOD-;
ADULTHOOD-
CC CLASSIFICATION CODE(S): 2840
PO POPULATION: Human
AG AGE GROUP: Child; Adult
UD UPDATE CODE: 9009
AN PSYC ABS. VOL. AND ABS. NO.: 77-22196
JC JOURNAL CODE: 1736

TI DOCUMENT TITLE: Gender schema, gender constancy, and gender-role knowledge: The roles of cognitive factors in preschoolers' gender-role stereotype attributions.

AU AUTHOR(S): Levy, -Gary-D.; Carter, -D.-Bruce

IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Denver, CO, US

JN JOURNAL NAME: Developmental-Psychology; 1989 May Vol 25(3) 444-449

CO CODEN: DEVPA9

IS ISSN: 00121649

LA LANGUAGE: English

PY PUBLICATION YEAR: 1989

AB ABSTRACT: Investigated the influence of several cognitive components of children's gender-role development on their attributions of gender-role stereotypes to a particular sex. A total of 83 children (44 boys and 39 girls) completed a 2-part interview that assessed degree of gender schematization, gender-role knowledge, flexibility, and stage of gender constancy. Children also completed tasks assessing attributions of gender-role stereotypes to male and female figures. Results indicated that children's gender schematization and other cognitive gender schema factors were significantly associated with children's accuracy in attributing gender-role stereotypes to both males and females. In contrast, stage of gender constancy per se was not significantly correlated with any of children's gender-role stereotype attributions. The patterns of results offer further evidence of the importance of gender schemata in early gender-role development. (PsycLIT Database Copyright 1989 American Psychological Assn, all rights reserved)

KP KEY PHRASE: cognitive components in sex role development; attribution of sex role stereotypes; 27-63 mo olds

DE DESCRIPTORS: SEX-ROLES; SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; PSYCHOSOCIAL-DEVELOPMENT; PRESCHOOL-AGE-CHILDREN; COGNITIVE-DEVELOPMENT; SCHEMA-; ATTRIBUTION-; CHILDHOOD-

CC CLASSIFICATION CODE(S): 2840

PO POPULATION: Human

AG AGE GROUP: Child

UD UPDATE CODE: 8909

AN PSYC ABS. VOL. AND ABS. NO.: 76-29149

JC JOURNAL CODE: 1208

BF699.D46 Peter (micro)

TI DOCUMENT TITLE: Some factors affecting the image of the scientist drawn by older primary school pupils.

AU AUTHOR(S): o-Maoldomhnaigh, -Micheal; Hunt, -Aine

IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Thomond Coll of Education, Limerick, Ireland

JN JOURNAL NAME:

Research-in-Science-and-Technological-Education; 1988 Vol 6(2) 159-166

IS ISSN: 02635143

LA LANGUAGE: English

PY PUBLICATION YEAR: 1988

AB ABSTRACT: 38 male and 38 female Irish children (aged 10.5 yrs) differed consistently in their representations of scientists. Girls had more extreme scores on the Draw-a-Scientist Test in response to verbal examples of the scientist that were either typical or atypical of the commonly held stereotype. (PsycLIT Database Copyright 1989 American Psychological Assn, all rights reserved)

KP KEY PHRASE: verbal presentation of atypical vs typical attributes of scientist; stereotypical drawing of scientist; male vs female 5th graders; Ireland; implications for science education

DE DESCRIPTORS: SCIENCE-EDUCATION; HUMAN-SEX-DIFFERENCES; STEREOTYPED-ATTITUDES; STUDENT-ATTITUDES; SCIENTISTS-; ELEMENTARY-SCHOOL-STUDENTS; CHILDHOOD-

CC CLASSIFICATION CODE(S): 3560; 35

PO POPULATION: Human

AG AGE GROUP: Child

UD UPDATE CODE: 8908

AN PSYC ABS. VOL. AND ABS. NO.: 76-27652

JC JOURNAL CODE: 2265

N/A

TI DOCUMENT TITLE: Physical attractiveness, sex role orientation, and the evaluation of adults and children.
 AU AUTHOR(S): Moore,-Janet-S.; Graziano,-William-G.; Millar,-Murray-G.
 IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Georgia, US
 JN JOURNAL NAME: Personality-and-Social-Psychology-Bulletin; 1987 Mar Vol 13(1) 95-102
 IS ISSN: 01461672
 LA LANGUAGE: English
 PY PUBLICATION YEAR: 1987
 AB ABSTRACT: 32 androgynous and 53 sex-typed White undergraduates evaluated adult and child target persons of varying levels of physical attractiveness on several social dimensions, using the Bem Sex Role Inventory. All Ss of both sexes attributed more positive qualities to highly physically attractive stimulus persons than to moderately attractive and unattractive targets. In evaluating transgressions, however, androgynous Ss were less influenced by the target's physical appearance than were sex-typed Ss. Potential reasons for androgynous persons' suspension of the physical attractiveness stereotype when evaluating social transgressions were explored. Results are discussed within the context of gender schema theory. (PsycLIT Database Copyright 1988 American Psychological Assn, all rights reserved)
 KP KEY PHRASE: sex role orientation; evaluation of persons of varying levels of physical attractiveness on social dimensions; college students
 DE DESCRIPTORS: SEX-ROLES; PHYSICAL-ATTRACTIVENESS; ANDROGYNY-; SOCIAL-PERCEPTION; RATING-; ADULTHOOD-
 CC CLASSIFICATION CODE(S): 2970
 PO POPULATION: Human
 AG AGE GROUP: Adult
 UD UPDATE CODE: 8806
 AN PSYC ABS. VOL. AND ABS. NO.: 75-16770
 JC JOURNAL CODE: 1987

TI DOCUMENT TITLE: Stuttering children: Investigation of a stereotype.

AU AUTHOR(S): Horsley,-Irmgarde-A.; FitzGibbon,-Carol-T.

IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Newcastle upon Tyne, England

JN JOURNAL NAME: British-Journal-of-Disorders-of-Communication; 1987 Apr Vol 22(1) 19-35

IS ISSN: 0007098X

LA LANGUAGE: English

PY PUBLICATION YEAR: 1987

AB ABSTRACT: To determine whether the largely negative stereotype of the "stuttering personality" extended to young children of both sexes who stutter, 95 clinicians, student clinicians, and teachers were asked to rate 8 hypothetical constructs on 25 bipolar rating scales used in previous research. The stereotype was found to exist, particularly for school-age stuttering boys, and was in agreement with previous reports. There were some differences in the strength of the reported stereotype, depending on age and sex of the construct, and differences were also reflected in the beliefs reported by student clinicians at different stages in their course. The strength of the stereotype appeared to be unaffected by exposure to stuttering individuals. (PsycLIT Database Copyright 1987 American Psychological Assn, all rights reserved)

KP KEY PHRASE: stereotypes of personality of male vs female children who stutter; speech clinicians & students speech clinicians & primary school student teachers & secondary school teachers

DE DESCRIPTORS: STEREOTYPED-ATTITUDES; HUMAN-SEX-DIFFERENCES; STUTTERING-; SPEECH-THERAPISTS; TEACHER-ATTITUDES; HEALTH-PERSONNEL-ATTITUDES; CHILDREN-; ELEMENTARY-SCHOOL-TEACHERS; STUDENT-TEACHERS; JUNIOR-HIGH-SCHOOL-TEACHERS; HIGH-SCHOOL-TEACHERS; THERAPIST-TRAINEES; ADULTHOOD-

CC CLASSIFICATION CODE(S): 3270; 32

PO POPULATION: Human

AG AGE GROUP: Child; Adult

UD UPDATE CODE: 8710

AN PSYC ABS. VOL. AND ABS. NO.: 74-28504

JC JOURNAL CODE: 1125

TI DOCUMENT TITLE: Children's gender role stereotypes: A comparison of the United States and South Africa.
AU AUTHOR(S): Albert, -Alexa-A.; Porter, -Judith-R.
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Rhode Island, Kingston
JN JOURNAL NAME: Journal-of-Cross-Cultural-Psychology; 1986 Mar Vol 17(1) 45-65
CO CODEN: JCPGB5
IS ISSN: 00220221
LA LANGUAGE: English
PY PUBLICATION YEAR: 1986
AB ABSTRACT: Compared gender trait and gender role stereotypes of 759 US and 452 South African children (aged 4-6 yrs old) and examined the effects of age, sex, socioreligious background, and mother's employment status both between and within country. South African Ss were found to sex-type the male role to a greater extent than US Ss, although country did not affect Ss' images of the female gender role. An age-sex interaction effect was observed both between and within country. Gender role stereotypes increased with age, and Ss were more likely to sex-type same-sex figures. South African Ss from liberal Christian and Jewish backgrounds had less rigid conceptions of the male and the female gender role than did conservative Christian Ss. Socioreligious background did not affect Ss' gender role attitudes in the US. Mother's employment status was unrelated to Ss' sex-typing scores in both countries. (30 ref) (PsycLIT Database Copyright 1987 American Psychological Assn, all rights reserved)
KP KEY PHRASE: age & socioreligious background & mother's employment status; gender trait & gender role stereotype attitudes; male vs female 4-6 yr olds; US vs South Africa
DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; RELIGIOUS-AFFILIATION; CROSS-CULTURAL-DIFFERENCES; HUMAN-SEX-DIFFERENCES; AGE-DIFFERENCES; SOUTH-AFRICA; CHILDHOOD-; EMPLOYMENT-STATUS; MOTHERS-; POLITICAL-ATTITUDES; PRESCHOOL-AGE-CHILDREN; SCHOOL-AGE-CHILDREN
CC CLASSIFICATION CODE(S): 2840
PO POPULATION: Human
AG AGE GROUP: Child
UD UPDATE CODE: 8706
AN PSYC ABS. VOL. AND ABS. NO.: 74-15197
JC JOURNAL CODE: 1393

BF778 . J85 P641 (STACKS)

TI DOCUMENT TITLE: Sex-stereotypes and attitudes to science among eleven-year-old children.
AU AUTHOR(S): Kelly, -Alison; Smail, -Barbara
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Victoria U of Manchester, Faculty of Economic & Social Studies, England
JN JOURNAL NAME: British-Journal-of-Educational-Psychology; 1986 Jun Vol 56(2) 158-168
CO CODEN: BJESAE
IS ISSN: 00070998
LA LANGUAGE: English
PY PUBLICATION YEAR: 1986
AB ABSTRACT: Administered a battery of attitude, achievement, and sex-stereotyping tests to 2,065 11-yr-old children. The battery included tests designed to measure science knowledge, spatial visualization, scientific curiosity, socioeconomic status (SES), general ability, and gender and occupational stereotype. The boys were found to be markedly more sex-stereotyped than the girls. Able girls and those from middle-class homes were slightly less sex-stereotyped than others. For both sexes, a feminine self-image was weakly linked to low academic achievement, and a masculine self-image to high achievement. Ss who endorsed sex stereotypes showed less interest than others in learning about the areas of science traditionally associated with the opposite sex. (19 ref) (PsycLIT Database Copyright 1986 American Psychological Assn, all rights reserved)
KP KEY PHRASE: SES & general ability & self image; sex stereotypes & attitudes to science; male vs female 11 yr olds; implications for science education
DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; STUDENT-ATTITUDES; SCIENCE-EDUCATION; ELEMENTARY-SCHOOL-STUDENTS; STUDENT-CHARACTERISTICS; SOCIOECONOMIC-STATUS; INTELLIGENCE-; SELF-CONCEPT; HUMAN-SEX-DIFFERENCES; CHILDHOOD-
CC CLASSIFICATION CODE(S): 3560; 35
PO POPULATION: Human
AG AGE GROUP: Child
UD UPDATE CODE: 8611
AN PSYC ABS. VOL. AND ABS. NO.: 73-28509
JC JOURNAL CODE: 1126

LB1051.B86 PER (stacks)

TI DOCUMENT TITLE: Damsels in distress: Dependency themes in fiction for children and adolescents.

AU AUTHOR(S): White,-Hedy

IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Western Carolina U

JN JOURNAL NAME: Adolescence; 1986 Sum Vol 21(82) 251-256

CO CODEN: ADOLAO

IS ISSN: 00018449

LA LANGUAGE: English

PY PUBLICATION YEAR: 1986

AB ABSTRACT: Studied sex-related dependency themes in 113 fictional books for children and adolescents by analyzing plot summaries from 113 reviews in March, 1983 through July, 1984 issues of Publisher's Weekly. Female and male characters were compared in situations where one character helped or influenced another. Findings indicate that, regardless of the context in which help was given and regardless of whether it was of an active or passive nature, females were more likely to receive than to give help, and males were more likely to give than to receive help. Males were observed to be more likely to provide emotional support or encouragement, a stereotypically female virtue. The cultural stereotype of the dependent female, however, was strongly reflected in female characters. (22 ref) (PsycLIT Database Copyright 1986 American Psychological Assn, all rights reserved)

KP KEY PHRASE: sex-related dependency themes in fictional books; review of plot summaries in "Publisher's Weekly"; children & adolescents; 1983-84

DE DESCRIPTORS: SEX-ROLE-ATTITUDES; STEREOTYPED-ATTITUDES; LITERATURE-; DEPENDENCY-PERSONALITY; HUMAN-FEMALES

CC CLASSIFICATION CODE(S): 2970

PO POPULATION: Human

UD UPDATE CODE: 8611

AN PSYC ABS. VOL. AND ABS. NO.: 73-27109

JC JOURNAL CODE: 1025

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TI DOCUMENT TITLE: Another world.
AU AUTHOR(S): Richardson,-Laurel
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: Ohio State U
JN JOURNAL NAME: Psychology-Today; 1986 Feb Vol 20(2) 22-27
IS ISSN: 00333107
LA LANGUAGE: English
PY PUBLICATION YEAR: 1986
AB ABSTRACT: Explored the experiences of single women having affairs with married men, based on conversations with over 700 "other women" (OW), letters from another 300, and in-depth interviews with 55 OW (aged 24-65 yrs). Results indicate that, unlike women who became mistresses in the past, today's OW generally want to finish their education, build a career, recover from a divorce, raise their children, and explore their sexuality. Getting married is not necessarily their primary goal. Ss reported that, once the relationship becomes sexually intimate, they usually find ways to conceal the liaison, such as cloaking or compartmentalizing. Contrary to the stereotype of a kept mistress, sex is not the primary activity in these relationships, nor is it what keeps women involved. Ss note the attractiveness of the talking together, the listening, the sharing of secrets, the mutual vulnerability, and avoidance of the heavy bargaining and escalating expectations that attend regular romances. It is contended, however, that the phenomenon of OW will contribute to and support the status quo: male privilege, female distrust of other women and divorce, and the attendant social and economic liabilities for women. (PsycLIT Database Copyright 1986 American Psychological Assn, all rights reserved)
KP KEY PHRASE: personality correlates & lifestyle; 24-65 yr old single females as "other women" in affair with married male
DE DESCRIPTORS: PERSONALITY-CORRELATES; LIFESTYLE-;
SINGLE-PERSONS; HUMAN-FEMALES; EXTRAMARITAL-INTERCOURSE;
HUSBANDS-; ADULTHOOD-
CC CLASSIFICATION CODE(S): 2970
PD POPULATION: Human
AG AGE GROUP: Adult
UD UPDATE CODE: 8611
AN PSYC ABS. VOL. AND ABS. NO.: 73-27105
JC JOURNAL CODE: 2881

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TI DOCUMENT TITLE: Family size and influence in Italy and Australia. Special Issue: Youth.
AU AUTHOR(S): Drinkwater, -Betty-A.
IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: James Cook U of North Queensland, Townsville, Australia
JN JOURNAL NAME: Australian-Journal-of-Sex, -Marriage-and-Family; 1985 Aug Vol 6(3) 163-167
IS ISSN: 01591487
LA LANGUAGE: English
PY PUBLICATION YEAR: 1985
AB ABSTRACT: Examined the validity of the cultural stereotype that Italians have large families by comparing questionnaire data from 100 high school children from Italy to that of 112 Australian high school children from an area of comparable population size. Also examined was the perceived influence of parents on their children's success and the importance of marriage and family in Ss' aspirations in later life. Contrary to the stereotype, results indicate that Italian Ss were generally from smaller families than were Australian Ss. Adolescents from both countries tended to see their parents as having little influence over their future lives. The Italian females (n = 52) tended to rate themselves as being more influential than did Australian females (n = 69). Ss from both countries cited marriage and family as their major nonvocational goals in life. (3 ref) (PsycLIT Database Copyright 1986 American Psychological Assn, all rights reserved)
KP KEY PHRASE: family size & perceived influence of parents on children's success & importance of marriage & family in future goals; female vs male high school students; Australia vs Italy
DE DESCRIPTORS: FAMILY-SIZE; FAMILY-RELATIONS; PARENT-CHILD-RELATIONS; MARRIAGE-ATTITUDES; GOALS-; CROSS-CULTURAL-DIFFERENCES; AUSTRALIA-; ITALY-; ACHIEVEMENT-; HUMAN-SEX-DIFFERENCES; ADOLESCENCE-; ADOLESCENTS-
CC CLASSIFICATION CODE(S): 2840; 2950
PO POPULATION: Human
AG AGE GROUP: Adolescent
UD UPDATE CODE: 8611
AN PSYC ABS. VOL. AND ABS. NO.: 73-26896
JC JOURNAL CODE: 1005

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TI DOCUMENT TITLE: Activity level and sex-stereotyped toy choice in toddler boys and girls.

AU AUTHOR(S): O'Brien,-Marion; Huston,-Aletha-C.

IN INSTITUTIONAL AFFILIATION OF FIRST AUTHOR: U Kansas, Lawrence

JN JOURNAL NAME: Journal-of-Genetic-Psychology; 1985 Dec Vol 146(4) 527-533

CO CODEN: JGPHYAI

IS ISSN: 00221325

LA LANGUAGE: English

PY PUBLICATION YEAR: 1985

AB ABSTRACT: In Exp I, the motor activity level and vigor of play of 24 male and 28 female toddlers (aged 14-28 mo) were assessed as they played with a set of sex-role stereotyped and neutral toys. Findings reveal that boys and girls showed the same level of activity, and both were significantly more active when playing with stereotypically masculine toys. In Exp II, 12 male and 15 female toddlers (aged 16-28 mo) were observed playing with toys defined as potentially eliciting high, medium, or low activity within the masculine, feminine, and neutral categories. Results show that boys and girls did not differ in overall activity level. All Ss preferred toys that allowed moderate to high activity, but given this preference, they selected toys stereotyped for their own gender above those stereotyped for the other gender. Overall findings suggest that both social stereotype and activity potential of toys may influence toddlers' toy choices. (22 ref) (PsycLIT Database Copyright 1986 American Psychological Assn, all rights reserved)

KP KEY PHRASE: play with stereotypically masculine vs feminine toys; motor activity level & vigor of play; male vs female 14-28 mo olds

DE DESCRIPTORS: CHILDHOOD-PLAY-BEHAVIOR; TOYS-; SEX-ROLES; STEREOTYPED-ATTITUDES; CHILDHOOD-; INFANTS-; PRESCHOOL-AGE-CHILDREN

CC CLASSIFICATION CODE(S): 2840

PO POPULATION: Human

AG AGE GROUP: Child

UD UPDATE CODE: 8611

AN PSYC ABS. VOL. AND ABS. NO.: 73-26929

JC JOURNAL CODE: 1409

BFI. J654B4 (stacks)

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Activity Level and Sex-Stereotyped Toy Choice in Toddler Boys and Girls

MARION O'BRIEN

ALETHA C. HUSTON

*Department of Human Development and Family Life
University of Kansas*

Abstract. In the first study, the motor activity level and vigor of play of 52 toddlers was assessed as they played with a set of sex-role stereotyped and neutral toys. Boys and girls showed the same level of activity, and both were significantly more active when playing with stereotypically masculine toys. In the second study, 27 toddlers were observed playing with toys defined as potentially eliciting high, medium, or low activity within the masculine, feminine, and neutral categories. Again, boys and girls did not differ in overall activity level. All children preferred toys that allowed moderate to high activity, but given this preference, they selected toys stereotyped for their own gender above those stereotyped for the other gender.

A NUMBER OF RECENT STUDIES have documented the preference for same-sex-typed toys among children in the second year of life (Fein, Johnson, Kosson, Stork, & Wasserman, 1975; Myers, Weinraub, & Shetler, 1979; O'Brien & Huston, 1985; O'Brien, Huston, & Risley, 1983; Weinraub & Leite, 1977). The reasons for this early appearance of sex typing are not clear.

It is possible that young children base their toy selection on factors that are more salient than sex-role stereotype, such as a toy's potential for motor

This research was supported by University of Kansas General Research Fund Grants 3423 and 3539 to Todd R. Risley and Grant 3151 to Aletha C. Huston, and by NICHD Grant 5T32HD97173. Portions of this study are based on a doctoral dissertation submitted by Marion O'Brien to the University of Kansas (1983).

We thank Laurel Betton Mullen, Sarah Mills, Susan Ridenour, and Susan Satterthwaite for help with data collection and analyses; Todd R. Risley for providing a site and resources for research; and the parents, children, and staff of the Toddler Center.

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activity. Boys are encouraged to be active, beginning in infancy (Frisch, 1977; Smith & Lloyd, 1978), and are reported to engage in more obvious motor play than girls, at least by preschool age (Eaton & Enns, 1983; Halverson & Waldrop, 1973; Maccoby & Jacklin, 1974). A predisposition for boys to be more active in their play than girls could lead to toy choice based on activity potential. If stereotypically masculine toys elicit more vigorous and active play than other types of toys, boys' selection of high-activity toys may be misinterpreted as a selection for gender-appropriate toys.

In a study of preschoolers, Eaton, Von Bargen, & Keats (1981) found that both boys and girls preferred an imaginary toy that would allow active play rather than a low-activity toy but that they chose a same-sex-typed toy of low activity rather than a cross-sex-typed toy of high activity. Thus, at least by preschool age, the sex-role stereotype would seem to be a dimension of considerable salience in toy choice in a laboratory situation.

Although activity level is sometimes considered a stable individual characteristic, perhaps based on biological factors or inherent temperament (Buss, Block, & Block, 1980; Buss & Plomin, 1975; Scarr, 1966; Thomas & Chess, 1977), several studies have shown that children's level of activity is highly dependent on such environmental factors as the presence or absence of peers and the location and context of play (Cohen, Hulls, & Rhine, 1978; Halverson & Waldrop, 1973; Smith & Connolly, 1972). The influence of particular types of toys on children's motor-activity level and vigor of play, however, has not been thoroughly investigated.

The present studies described toddlers' level of motor activity with socially stereotyped and neutral toys in a naturally occurring free-play situation and evaluated the relative contribution of sex-role stereotype and activity-eliciting potential in the toy choice of children younger than 3 years. A natural, familiar setting was selected, and the observation procedures were designed to fit into the setting so that the results would reflect children's typical behavior under everyday conditions.

Study 1

Method

The motor-activity level and vigor of play of 52 middle-class toddlers attending a day care center was assessed with a set of stereotyped and neutral toys as part of a 14-month longitudinal study of sex-typed play (O'Brien, 1983; O'Brien & Huston, 1985). Three age groups of children were included: 1-year-olds (14 to 18 months; 12 boys and 12 girls), 1½-year-olds (19 to 23 months, 7 boys and 8 girls), and 2-year-olds (24 to 28 months; 5 boys and 8 girls). Toys used as representative of the masculine stereotype were a set of tools, a train, and a truck; as feminine, a doll, a dollhouse, and a tea set; and

as neutral, stacking rings, an hourglass, and a chiming toy. Toys were set out in a 10 m² toy area during free-play time for 1 hr a day, 1 week each month. Other toys and activities were available at observation times, and children were permitted to move freely from one toy or activity area to another, following standard procedures for the center. Most children moved in and out of the observation area, playing for 5 to 10 min at a time in a pattern that was typical of free play at the center.

The name and activity level of each child playing with any toy in the observation area was recorded once every 2 min by observers who rotated through a random-order list of the nine toys. Activity level was rated using a 5-point rating scale in which 1 = completely still, sitting, or lying down; 2 = sitting, kneeling, or lying down with small-motor manipulation, or standing still; 3 = standing, sitting, or kneeling with large-motor arm and/or leg movements; 4 = walking, climbing, rolling, crawling, banging, throwing, active fighting over a toy, pulling on a toy; and 5 = running, dancing, chasing another child, jumping. A mean motor-activity level for each child was obtained by toy (and toy group) by summing each child's ratings for each toy and dividing the total by the number of occasions each toy was used by each child. Interobserver reliability was calculated on an observation-by-observation basis and averaged .85.

Because children playing together may be more active, or are perceived to be more active, than children playing alone (Eaton & Keats, 1982), observers indicated when children were playing together. Analysis of these records showed that shared use of toys occurred in only 3.5% of all observations.

Results and Discussion

A Sex \times Age \times Toy Type ($2 \times 3 \times 3$) analysis of variance (ANOVA) calculated on the children's mean activity levels indicated no main effects for sex or age but a highly significant effect for toy type, $F(2, 92) = 25.75$, $p < .001$. Masculine sex-typed toys were associated with significantly higher activity levels than either of the other two toy groups for both boys and girls.

The common belief that young boys are more active in play than girls was not supported in this study. Within the context of the toy area in which they were observed, the toddler boys and girls showed essentially the same level of activity, and there was wide individual variability within each gender. For both boys and girls, however, masculine sex-typed toys elicited higher activity levels than did feminine sex-typed or neutral toys.

Boys in this study played more often with masculine sex-typed toys than with the other types of toys (O'Brien & Huston, 1985). Whether they were selecting masculine toys because of the social stereotype or because the stereotypically masculine toys allowed greater motor activity than the other

toys could not be determined from the results. Therefore, a second study was carried out to investigate this issue further.

Study 2

To evaluate the relative salience to toddler boys and girls of toys' sex-role stereotype and potential for motor activity, a second study was carried out in the same day care center. Toys defined as having low-, medium-, and high-activity potential were selected to fit masculine, feminine, and neutral stereotypes, and the toddlers' play with these toys was observed. If boys were selecting toys based on their activity potential, then they would be expected to select high-activity eliciting toys regardless of the sex-role stereotype of the toy. If, on the other hand, the children found sex-role stereotype a salient and preferred characteristic of toys, they would be expected to play with gender-appropriate toys more often than with cross-sex-typed toys, regardless of activity potential.

Method

Subjects were 27 middle-class toddlers, ranging in age from 16 to 28 months, attending a day care center. The mean age of the 15 girls was 25.2 months, and of the 12 boys, 22.1 months.

To select toys that represented socially defined masculine, feminine, and neutral stereotypes and also varied in their potential for motor activity, six adults who were familiar with young children's play but were naive to the purpose of the request were asked to rate 21 toys on a variety of dimensions, including sex-role stereotype and potential for active play. The rating scale had been previously tested to establish that adult ratings of activity potential matched toddlers' actual play behavior (O'Brien, 1983). From these ratings, 15 toys were selected for use in the study.

The 15 toys were set out in the large play area of the toddler day care center. To ensure that enough play materials were available for all children, in addition to the 15 target toys, some center-owned toys whose activity potential was not rated were also available for play during observation sessions. These toys were selected as masculine, feminine, and neutral based on earlier studies with toddlers (O'Brien, 1980).

Toys were available during free-play times about 3 mornings and 3 afternoons a week for 6 weeks, and each child's activity level and toy use were recorded 150 times, with no child observed more frequently than once in 5 min. This observation schedule was designed to provide independent samples of the children's toy choices over time. Activity level was defined as described in Study 1, and toy use was defined as touching, focusing attention on, or "possessing" a toy so no one else could take it. Interobserver reliability was

assessed frequently throughout the study and averaged .91 for activity level and .99 for toy use.

Results

Activity level. As in Study 1, the toddler boys and girls in this study did not differ significantly in overall activity level, $t(25) = 1.64$. Activity levels of both boys and girls varied consistently with the rated activity potential of the toys. A 2×3 , Sex of Child \times Toy Type (low-, medium-, high-activity level) ANOVA showed that the high-activity toys elicited significantly more gross-motor play in both boys and girls than did the low- or medium-activity toys, but these latter two groups did not differ from each other: main effect for toy type, $F(2, 50) = 53.50, p < .001$.

Boys and girls also showed similar patterns of activity level with individual toys. When the toys were rank ordered by amount of activity elicited, the correlation between the rank orders for boys and girls yielded a rho of .80 ($df = 13, p < .001$). Thus, as in Study 1, activity level depended more on the toy being used than on the gender of the child using the toy.

Toy use. Across all observations, including the toys not experimentally manipulated for activity potential, boys' and girls' play was sex typed. A Sex of Child \times Toy Type (2×3) ANOVA on the children's toy use showed significant main effects for sex, $F(1, 25) = 4.59, p < .05$; and toy type, $F(2, 50) = 12.40, p < .001$; and a significant Sex \times Toy Type interaction, $F(2, 50) = 15.18, p < .001$. Both boys and girls preferred same-sex-typed to cross-sex-typed toys, but there was no difference between boys and girls in their use of neutral toys. Girls played with no toy significantly more often than boys did, $t(25) = 2.86, p < .001$.

When only the target toys were included, the analysis revealed a more complex picture. A Sex of Child \times Sex Type of Toy \times Activity Potential of Toy ($2 \times 3 \times 3$) ANOVA showed significant main effects for sex, $F(1, 25) = 11.31, p < .01$; sex type of toy, $F(2, 50) = 8.14, p < .001$; and activity potential of toy, $F(2, 50) = 16.34, p < .001$. The Child Sex \times Sex Type of Toy interaction was also significant, $F(2, 50) = 7.85, p < .01$; but the Child Sex \times Activity Potential interaction was not, $F(2, 50) = 1.35$, indicating that boys and girls differed in their toy choice based on sex-role stereotype but not on activity-eliciting potential. Boys' and girls' preferences were quite similar across individual toys. The rank-order correlation coefficient calculated between boys' and girls' most preferred toys yielded a rho of .95 ($df = 13, p < .001$), and despite the girls' lower overall toy use, boys played significantly more often with only two toys, both masculine sex-typed. Both girls and boys tended to play more with toys defined as medium- or high-activity eliciting than with the low-activity toys. Within the high-activity cat-

egory, however, boys clearly preferred masculine sex-typed toys to neutral or feminine toys, whereas girls played about equally with the three types.

Discussion

Study 2 replicated the results of Study 1 in finding sex differences in preferences for stereotyped toys but no significant difference in overall activity level between toddler boys and girls. Both boys and girls played more with medium- and high-activity-eliciting toys than with low-activity toys. Within those categories, however, boys tended to select the masculine sex-typed toys over the feminine or neutral toys. This finding suggests that both activity potential and social stereotype contributed to the toddler boys' toy choices.

General Discussion

The results of these studies in a natural play situation suggest that both social stereotype and activity potential of toys may influence toddlers' toy choices. Most toddlers of both genders preferred toys that allowed moderate to vigorous motor activity. Across all available toys, however, toddlers tended to select toys stereotyped for their own gender above those stereotyped for the other gender.

Most toys that encourage vigorous play are culturally defined as masculine. Thus, boys find considerable correspondence between societal expectations and their own toy preferences. Girls, on the other hand, usually have few toys labeled masculine in their homes (O'Brien & Huston, 1985; Rheingold & Cook, 1975), and adults may tend to encourage them to play with more "suitable" toys (Fagot, 1978). Socialization factors such as these may influence girls to play less with activity-eliciting, masculine toys than boys do, beginning by 18 months of age, despite girls' preference for toys that elicit activity and the general unavailability of feminine toys that encourage vigorous play. Sex-role stereotypes of toys therefore appear to exert an influence on toy choice and are at least as salient as activity potential, even to very young children.

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AB ABSTRACT: Through content analysis, significant differences were found in the representation of male characters (MCs) and female characters (FCs) in 41 children's picture books published 1976-1987. MCs outnumbered FCs, were given the majority of central character roles, and were more likely to be the recipients of help. In addition, MCs helped other MCs more than they helped FCs. Male helping behavior was mostly instrumental, while female helping behaviors were equally expressive and instrumental, reflecting a balance between empathy and initiative in their role model orientation. FCs were frequently presented in a limited number of stereotyped roles, whereas MCs were presented in a variety of roles. (PsycLIT Database Copyright 1990 American Psychological Assn, all rights reserved)

KP KEY PHRASE: helping behavior & role distribution & stereotype; representation of males & females in children's picture books; 1976-87

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Sex Bias in the Representation of Male and Female Characters in Children's Picture Books

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ABSTRACT. Through content analysis, significant differences were found in the representation of male and female characters in a sample of children's picture books published in the years 1976 through 1987. Male characters outnumbered female characters, were given the majority of central character roles, and were more likely to be the recipients of help. In addition, male characters helped other male characters more than they helped female characters, and male helping behavior tended to be instrumental rather than expressive. Furthermore, female characters were frequently presented in a limited number of stereotyped roles, whereas male characters were presented in a wide variety of roles. The authors of children's picture books may need to become more responsible in their representation of the sexes.

THE DEVELOPMENT OF an appropriate sex role identity is an important component of the healthy personality. It occurs early in life and influences the evolution of future behaviors and expectations. Unfortunately, when personality characteristics are associated only with a particular sex role, they may limit a person's social mobility, for sex stereotyping frequently produces rigid, black-and-white conceptualizations of the appropriate abilities and behaviors for men and women. Furthermore, the expectation of sex-linked biases may lead to the development of narrow and potentially ineffectual in-

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terpersonal problem-solving styles (Barnett, 1986; Dino, Barnett, & Howard, 1984).

Despite the increased range of careers and life-styles available to both sexes today, sex role stereotypes are still present and still produce negative consequences, especially for women. For example, the attributes and functions frequently assigned to the feminine role are less highly valued than those attributed to the masculine role. Men are typically regarded as intellectual, competent, adventurous, and skilled in the ways of the world, whereas women are characterized as illogical, dependent, and passive experts of household and childcare duties (Broverman, Vogel, Broverman, Clarkson, & Rosenkrantz, 1972). Achievements by women are often perceived as role inappropriate (Feather & Simon, 1975) and are subsequently devalued (Deaux & Emswiller, 1974). Ellis and Bentler (1973) found that the persistence of traditional sex role attitudes adversely affected women's originality, marital harmony, and personality development.

An interesting, yet subtle, result of sex role stereotyping has been identified by Gilligan (1982). She argued that separate standards for men and women have negatively affected the way in which a woman's level of moral development can be perceived. Gilligan contended that women and men adopt different perspectives on moral issues and that these sex differences in moral reasoning arise from the stereotypical ways in which boys and girls are raised. Boys learn to be independent, assertive, and achievement oriented, and learn to consider moral dilemmas as inevitable conflicts of interest between two or more parties meant to be resolved by laws and other social conventions. On the other hand, Gilligan asserted that girls are taught to be nurturant, empathic, and concerned about the needs of others, producing a sense of "goodness" based on their relationships with others. She claims the result is the general classification of women at a level of moral development one step below that of men, using Kohlberg's (1969, 1976) scheme of moral development.

As early as 3 years of age, children can correctly associate sex-typed objects, such as articles of clothing, with the appropriate sex (Thompson, 1975). In addition, there is evidence that 5-year-old children prefer same-sex objects to opposite-sex objects (Nadelman, 1974). Williams, Bennett, and Best (1975) found that kindergarten children had an appreciable degree of knowledge of adult sex stereotypes and that such knowledge increased through the second-grade level and then remained constant for the next two years. Williams et al. also found that male stereotypes were learned at an earlier age than female stereotypes and that it was more acceptable for girls to adopt aspects of both male and female roles (the "tomboy") than it was for boys to adopt behavior classified as feminine (the "sissy"). This finding was supported by Flerx, Fidler, and Rogers (1976), who discovered that 3- and 4-year-old boys exhibited a greater tendency to respond stereotypically than did

their female counterparts. Finally, by 5 years of age, most children can accurately attribute sex-stereotyped preferences to peers of the opposite sex (Emmerich & Shepard, 1984).

Opportunities for the vicarious learning and modeling of sex role stereotypes are readily available to the young child. Because children tend to imitate persons who are available for observation, powerful or dominant, and warm and nurturant toward them (Maccoby, 1980), parents ought to have the most influence. Very little evidence has been found supporting a relationship between parents' degree of sex typing and that of their same-sex children (Maccoby & Jacklin, 1974; Smith & Daglish, 1977), but it appears that children of both sexes imitate and are similar in personality to the parent who is dominant (Hetherington, 1967).

In addition to parents, media sources probably play a part in early sex role development (Brooks-Gunn & Matthews, 1979). Toy advertisements have been found to reinforce conventional sex role definitions (Schwartz & Markham, 1985), and future expectations for young children, such as job aspirations, have been best predicted by the influence of such media sources as television, motion pictures, and books (Katz & Boswell, 1986). The influence of such media was illustrated by Flerx et al., (1976) when brief presentations of illustrated stories involving egalitarian sex role models reduced stereotypic thinking among 5-year-olds. Flerx et al. also found the egalitarian presentation to be more effective in changing girls' stereotypic thinking than boys' stereotypic thinking. Additional research indicates that the use of non-sexist literature can cause a measurable positive change in the attitudes of children as young as 4 years old (Berg-Cross & Berg-Cross, 1978). Exposure to sex-stereotyped books, however, contributed to an increase in children's sex-typed play behavior (Ashton, 1983).

If the type of literature children are exposed to does in fact affect how they view the sexes, a more responsible representation of male and female characters in children's books may provide a means through which sex role orientations can be improved. Unfortunately, children's literature typically fails to present youngsters with an equitable treatment of the sexes and may be working in the wrong direction. For example, male characters have been found to appear more frequently in the text, illustrations, and titles of children's books than female characters (Britton & Lumpkin, 1977; Saario, Jacklin, & Tittle, 1973; *Women on Words and Images*, 1975). In a sample of elementary readers published between 1961 and 1971, boys were nearly three times more likely than girls to be main characters in a story (Graebner, 1972). A follow-up study of textbooks published in the years 1972 to 1975 found no improvement, for only 23% of the main characters and 33% of the illustrations were female (Marten & Matlin, 1976). Moreover, little boys are far more likely than little girls to play in children's books; boys' play also tends to be "just for fun," whereas girls are frequently depicted as playing for a

social purpose (McVaigh & Johnson, 1979). In addition, male characters are depicted more frequently than female characters as both the givers and recipients of help (Barnett, 1986).

Further study of children's books has found that male and female characters are typically portrayed in sex-stereotyped activities (Engel, 1981; Marten & Matlin, 1976; Pottker, 1977; Saario et al., 1973; Weitzman, Eifler, Hokada, & Ross, 1972; Women on Words and Images, 1975). Of 100 children's picture books published between 1972 and 1974, only 68 included women in some role, and 68% of those roles were that of homemaker (Stewig & Knipfel, 1975). Of the remaining professional roles, the most prevalent female occupation was that of teacher, another stereotypical role. Men were portrayed more frequently, were more active, and were presented in a wider array of professional roles than women; they rarely performed household tasks. Finally, frequent derogatory remarks about female roles, such as, "it's girls' work to do dishes," and "a woman's place is in the kitchen among the pots and pans," have been found in children's textbooks (Marten & Matlin, 1976). Stereotypic behavior and derogatory comments about women were also found in a sample of Newberry Medal books: Three books centering around boys were identified for every one book about girls (Feminists on Children's Literature, 1971).

After a long period of unequal representation that began around 1950, the portrayal of the sexes in children's literature does seem to be moving in a positive direction. In a longitudinal study of picture books beginning with those published between 1951 and 1955, female characters initially represented 46% of the characters (Nilsen, 1978). The percentage decreased to 41% between 1956 and 1960, to 35% between 1961 and 1965, to 26% between 1966 and 1970, and to 22% between 1971 and 1975. The percentage rose slightly between 1976 and 1980, when 28% of the characters were found to be female (Engel, 1981). In a recent study of Newberry Medal books published in the years 1977 to 1984, three female main characters were identified for every two male main characters, and there was a substantial decrease in stereotypic behavior (Kinman & Henderson, 1985). Kinman and Henderson concluded that authors are now observing society's more equal treatment of the sexes and are evolving stories and characters that reflect the improvement.

It is evident that a more fair and equal representation of the sexes is needed in children's literature. Kinman and Henderson's (1985) research indicated a decrease in sex-stereotyping in recent Newberry winners, but has there been a comparable decrease in picture books meant for younger children? Through content analysis, I sought to determine whether treatment of the sexes had improved in children's picture books between 1976 and 1987. I first compared the purpose of helping behaviors and the frequency with which male and female characters helped and were helped. The motivation

behind the helping behavior of male and female characters was expected to vary in relation to Gilligan's (1982) assumptions about moral development and its ties to the upbringing of the sexes. The helping behavior of female characters was expected to be mostly expressive, or emotion motivated, whereas that of male characters was expected to be mostly instrumental, or outcome motivated. I then analyzed the distribution of male and female characters in central, primary, and secondary roles. Finally, I assessed the frequency of male and female characters in traditional roles and their appearance in roles usually attributed to the opposite sex.

Method

Sample

To be considered for content analysis, a book had to (a) be a picture book meant for preschoolers, kindergartners, or children just learning to read, (b) tell a story, and (c) have been published in 1976 or later. Books designed as references, such as capsule descriptions of various kind of animals or races of people, were not included in the sample. In all, 41 children's picture books published in the years 1976 through 1987 were analyzed. The yearly distribution consisted of 3 books from 1976, 3 each from 1978 through 1980, 6 from both 1981 and 1982, 5 from both 1983 and 1984, 3 from both 1985 and 1986, and 1 from 1987. The sample included 38 authors and 23 publishers and contained 22 Caldecott Medal books and 19 non-award-winning books.

Content analysis of the books in the sample was performed on location at both the local public library and a library located in the University of Idaho College of Education. All Caldecott Medal winners were analyzed at the College of Education library from a special collection, and the non-award-winning books were randomly selected from the shelves of both libraries.

Apparatus and Procedure

Thirty-five of the books were analyzed by me, and 6 were analyzed by a colleague. A content-analysis rating form was used to record the pertinent sex role data. The 2-page form consisted of two general sections, one for book identification and another for content analysis. In the identification section, a book's title, author(s), publisher, and year of publication was recorded. The content analysis section was divided into six categories, in which parental support, helping behavior, stereotypical behavior roles, play behavior, character status, and illustrations were evaluated. The segments of the rating form devoted to parental support, play behavior, and illustrations were not completed for this study; therefore, they will not be elaborated upon.

A coded checklist of items was used to describe story characters in all sections of the form. Each character was identified as either an adult or a child; as male, female, or neuter; as human or nonhuman, and as Caucasian or minority (if applicable). (The item addressing race was not used in the final analysis of the data.) Any character that could not be identified as either male or female was defined as neuter, and animal characters, with or without human-like personalities, and inanimate objects with human-like personalities were classified as nonhumans. A nonhuman could be identified as either male or female through dress or pronoun references.

Each instance of helping (a helping event) was analyzed separately. First, the purpose of the helping behavior was identified as either instrumental or expressive. Instrumental help was defined as a solicited or unsolicited action intended to obtain a desired object, situation, or outcome for a character or group of characters other than the helper. Expressive help was defined as a feelings-oriented response intended to comfort, console, or support a particular character or group of characters other than the helper (both definitions adapted from Barnett, 1986). Second, the helper and the recipient(s) were described. The helper had to be a specific individual who alone accounted for the helping in an event. If two or more characters were responsible, the event was not included in the analysis. If, however, the recipient of help was a group (two or more characters), the event could be included in the analysis. This was done to account for all helping behavior performed by individuals, regardless of who was helped. To describe and compare those helped, we individually identified characters receiving help as long as no more than two were helped. If more than two individuals were helped in an event, they were identified as a group.

Another section of the rating form was used to record a story's stereotyped behavior roles. Examples of such roles are male mechanics, policemen, businessmen, female waitresses, homemakers, and old maids. Examples of nonstereotyped or progressive roles are househusbands, male nurses, male teachers, or businesswomen, female doctors, and female politicians. Characters who were not specifically identified in a particular role (e.g., school-teacher, storekeeper, farmer, train conductor) through illustrations or the text were not included in the content analysis. A female character could be labeled a housewife or homemaker only if she was shown to stay home throughout the day and performed household chores with no indication of outside employment. For example, if a woman was shown performing only one task associated with the homemaker role, such as setting the table, cooking, or taking the kids to school, she could not be labeled a homemaker based on that evidence alone. After a character was identified in a particular role, he or she was qualified as either active or passive. Active characters showed independence, leadership, and initiative, whereas passive characters were dependent, followed orders, and relied on the assistance of others.

A box was provided in the rating form for raters to indicate whether a stereotyped role was "in context," using historical time as the criterion. Whether or not a stereotyped role is biased depends upon the era in which the story takes place. Because opportunities and expectations for the sexes have changed considerably since the women's movement began, a stereotyped role was considered biased only if it was presented in a book about the present. Bias can occur only if roles are presented that do not reflect the equality of the sexes expected today. Therefore, a traditional role was not considered biased if it was presented in a historical setting that did not stress equality between the sexes. For example, a pioneer farm woman responsible for the household chores was considered a stereotyped character in context, as were princesses in distress, knights in shining armor, and real life historical figures.

A record of central, primary, and secondary characters was kept in the character status distribution section of the analysis form. Central characters were defined as those around which the story revolved and whose actions, experiences, and relationships directly influenced and embodied the story's progression, outcome, and purpose. Primary characters interacted with the central character(s) throughout the story but did not embody its progression, purpose, or outcome. In some cases, a book did not have any central characters. In those cases, although the primary characters may have collectively performed the function of a central character, no central character was identified for analysis. Secondary characters provided little input to the story line and were essentially part of the background. To be included in the content analysis, a character had to be identified in the text or shown to influence another character's behavior.

Results

Helping Behavior

Of 99 helping events identified, 92 were performed by male or female characters (92.93%); male characters were responsible for 55 (59.78%) helping acts, and female characters were responsible for 37 (40.22%). Of the 99 recipients of help, 84 (84.85%) were exclusively male or female, with 53 male recipients (63.10%) and 31 female recipients (36.90%). The instances of helping behavior involving male and female characters were tallied into four categories: female helping female, female helping male, male helping male, and male helping female. As seen in Table 1, these categories were used to form dyads comparing the frequencies of male and female helping incidents. Using chi-square analysis, significant differences were found for two of the six dyads. First, male characters helped other male characters significantly

TABLE 1
Comparison of Female Helping Act Frequency With
Male Helping Act Frequency

Comparison dyad	Number of helping acts	χ^2
Female character helping male character	22	3.67
Female character helping female character	11	
Male character helping male character	31	7.36**
Male character helping female character	13	
Female character helping male character	22	1.53
Male character helping male character	31	
Female character helping female character	11	0.17
Male character helping female character	13	
Total male characters helping	50	3.52
Total female characters helping	37	
Total male characters helped	53	5.76*
Total female characters helped	31	

* $p < .02$. ** $p < .01$.

more often than they helped female characters, $\chi^2(1) = 7.36, p < .01$. Second, male characters were the recipients of help more frequently than were female characters, $\chi^2(1) = 5.76, p < .02$.

Female characters helped expressively 15 times (40.54%) and instrumentally 22 times (59.46%), whereas male characters helped expressively 18 times (32.73%) and instrumentally 37 times (67.27%). As seen in Table 2, no significant difference in frequency was found between the two types of helping motivation for female characters, but male characters were significantly more instrumental than expressive in their helping, $\chi^2(1) = 6.56, p < .02$.

Character Status Distribution

A total of 187 male or female characters were identified. Of those, 110 (58.82%) were male and 77 (41.18%) were female. Of 38 central characters, 26 (68.42%) were male and 12 (31.58%) were female. A total of 54 primary characters consisted of 29 (53.70%) male and 25 (46.30%) female characters. Of 95 secondary characters, 55 (57.89%) were male and 40 (42.11%) were female. As shown in Table 3, representation of male and female characters was significantly unbalanced; male characters were decidedly overrepresented both overall, $\chi^2(1) = 5.82, p < .02$, and as central characters, $\chi^2(1) = 5.16, p < .05$.

TABLE 2
Comparison of Instrumental and Expressive Helping Behavior Frequencies of
Male and Female Characters

Helper	Frequency	χ^2
Female character helping expressively	15	1.32
Female character helping instrumentally	22	
Male character helping expressively	18	6.56*
Male character helping instrumentally	37	

* $p < .02$.

Stereotyped Behavior Roles

Of the 187 characters recorded as male or female, 61 (32.62%) had identifiable roles. Male characters had 35 (57.38%) of the roles, and female characters had 26 (42.62%). Male characters were given a much broader range of roles (31) than female characters (19). Of all the roles, 53 (86.89%) were traditional or stereotyped, and 8 (13.11%) were progressive or nonstereotyped. Of the traditional or stereotyped roles, 33 (62.26%) were given to male characters and 20 (37.74%) were given to female characters. Two of the progressive or nonstereotyped roles were male oriented, and 6 were female oriented. Likewise, 6 female characters were identified as housewives (23.08%). In other words, for every female character in a progressive role, there was another in a housewife role. (Three of the housewives were presented in context, however.) Of the 20 traditional or stereotyped female roles, 8 (40%) were passive, and only 1 was considered in context. Table 4 summarizes the character roles and their frequencies.

Discussion

Consistent with the general pattern of bias reported in other studies of children's books, it appears that picture books did not improve in their treatment of the sexes between 1975 and 1987. Although female characters were close to 50% of all characters presented, they were still underrepresented, especially as central characters, and were given a smaller variety of roles than were male characters. Women continue to be portrayed as teachers, old maids, housewives, and princesses in children's stories, and men are still placed in such roles as king, villain, wiseman, and shepherd or farmer. Female characters may take on male roles to a greater extent than male characters take on female roles, however. Unfortunately, such role interchanges are rare and should be used more often in children's stories.

TABLE 3

Comparison of Male and Female Character Status Distributions

Role status	Number of males	Number of females	χ^2
Central	26	12	5.16*
Primary	29	25	0.30
Secondary	55	40	2.37
Total	110	77	5.82**

* $p < .05$. ** $p < .02$.

There also was bias in the presentation of helping behavior, as female characters were helped significantly less often than male characters. This, however, may be indicative of a central-character bias. Because central characters are more likely to help or be helped, and because there were more male central characters than female, female characters simply may not have had the opportunity to help.

Barnett (1986) found all picture book characters to be rated as more instrumental than expressive in their helping behavior. When characters were separated into subgroups, however, he discovered that nonhuman female characters tended to be more expressive than instrumental. In this study, I found sex differences in the helping behavior of all characters. Male characters tended to be mostly instrumental in their helping behavior, whereas female characters were equally instrumental and expressive. Such an outcome coincides with the contention that boys are taught to be achievement oriented and to base their moral behavior (such as helping) on extrinsic motivators (Gilligan, 1982). It would be desirable for children's authors to present more male characters helping for empathic, expressive reasons that do not correspond to the male stereotype. On a positive note, female characters in this study were not portrayed as essentially expressive helpers. Instead, their helping behavior reflected a balance between empathy and initiative in their role-model orientation.

The conclusions drawn from this study must be accepted with caution. Though I attempted to select a representative sample, it is still quite small in relation to the vast number of books available. Nevertheless, other researchers have reached the same conclusions based on analyses of 64 (McVaigh & Johnson, 1979), 154 (Stewig & Knipfel, 1975), and even 1,537 books (Barnett, 1986). The reliability and validity of the content analysis rating form has not been established, and there was ample opportunity for subjective researcher bias. Furthermore, only short-term changes in behavior and attitudes have been attributed to literature exposure. The long-term effects of the type of literature a child is exposed to on his or her later sex role orientation have

TABLE 4

Male and Female Roles and Their Frequency in the Sample

Male role	Frequency	Female role	Frequency
<i>Traditional or stereotyped roles</i>			
Boatmaker	1	Active housewife ^a	2
Businessman	1	Evil old woman	1
Coal miner	1	Passive housewife	3
Doctor	1	Passive housewife ^a	1
Farmer	1	Passive princess	2
Garbageman	1	Waitress	1
Hermit	1	Teacher	2
Housebuilder	1	Active queen	1
Indian scout ^a	1	Passive queen	2
Inventor ^a	1	Fairy princess	1
Jungle guide	1	Old maid	2
King	2	Angel	1
Knight	1	Weaver	1
Magician	1		
Mechanic	1		
Musician	1		
Pilot ^a	1		
Policeman ^a	1		
Preacher	1		
Rabbi ^a	1		
Robber	1		
Sailor	1		
Shepherd	2		
Shopkeeper	1		
Train conductor	1		
Veterinarian	1		
Villain	2		
Wiseman ^a	2		
Woodcutter	1		
Total	33		20
<i>Progressive or nonstereotyped roles</i>			
Homemaker	1	Store manager	1
Progressive father ^b	1	Tightrope walker	1
		Mail carrier	1
		Milk delivery person	1
		Shopkeeper	1
		Intellectual	1
Total	2		6

^aIn context. ^bA father who readied his daughter for bed, read her a bedtime story, and tucked her in.

yet to be established. Finally, other media sources, especially television, may have tremendous influence on the formulation of stereotypes in the developing mind.

Nevertheless, nonsexist literature is needed for children growing up today (Brooks-Gunn & Matthews, 1979; Flerx et al., 1976). Children need to see opportunities and expectations that reflect a new reality, for many of the rigid boundaries that once defined the sexes are no longer valid. Most of all, children should learn that their potential lies in their innate abilities and are not limited by their gender.

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